

A revision of the spider genus *Cocalodes* with a description of a new related genus (Araneae: Salticidae)

F. R. Wanless

Department of Zoology, British Museum (Natural History) Cromwell Road, London SW7 5BD.

Introduction

The genus *Cocalodes* Pocock, 1897, known from Amboina, Seram, Halmahera and New Guinea, is comprised of 12 species, six of which are described here as new. Petrunkevitch (1928) placed *Cocalodes* in the subfamily Boethinae, but as far as I am aware it shows no close affinities with the nominate genus *Boethus* or related genera (sensu Wanless, 1981). It is, however, closely allied to *Allococalodes* gen. n., proposed here for two new taxa from New Guinea.

Both genera are unique in that the majority of males possess a well developed median horn arising from a sclerite between the lower basal margins of the chelicerae (Figs 8A, 21B). This structure has not been described in *Cocalodes* by earlier authors, for in the majority of species it does not protrude beyond the edge of the clypeus and is readily overlooked. The horn is not homologous with the paired horns of *Padilla* Peckham & Peckham, which arise from the basal region of the anterior surface of the chelicerae. Neither is it homologous with the horn of *Thorellia* Keyserling which arises from the clypeus.

The male palps of both *Cocalodes* and *Allococalodes* are also of interest in possessing a functional conductor and median apophysis which seldom occur in other Salticidae. In *Allococalodes* the functional conductor and median apophysis are lobe-like (Fig. 16E) and relatively simple when compared with the elaborate fan-like functional conductor and bifid median apophysis characteristic of *Cocalodes* (Fig. 6G). The less complex structures of *Allococalodes* are possibly vestigial or germinal in respect of those of *Cocalodes*, but for the present it is a matter for conjecture as the affinities of both genera are uncertain.

The standard abbreviations and measurements are those used by Wanless (1978), but for the leg spination the system is that used by Platnick and Shadab (1975).

Genus *COCALODES* Pocock

Cocalodes Pocock, 1897: 627. Type species *Cocalodes leptopus* Pocock, by original designation. Simon, 1901: 400, 403–405. Waterhouse, 1902: 80. Petrunkevitch, 1928: 181. Neave, 1939, I: 778. Roewer, 1954: 936. Bonnet, 1956: 1172.

DEFINITION. Small or large spiders ranging from about 4.5 to 11.0 mm in length. Most species elongate and narrow with long slender legs, the abdomen usually marked with characteristic dark lateral bands; chelicerae robust, in males usually elongate and porrect with a median horn which sometimes protrudes beyond the clypeus; not hirsute, fringes lacking.

Carapace: longer than broad, moderately high, widest at about level of coxae II–III; fovea long, weakly sulciform, positioned more or less midway between posterior margins of posterior lateral eyes. **Eyes:** with black surrounds except anterior medians; posterior medians and posterior laterals on moderately well developed tubercles;

arranged in three transverse rows, comprised of anterior medians (AM) and anterior laterals (AL), posterior medians (PM), and posterior laterals (PL); anteriors more or less contiguous with apices procurved in frontal view and recurved in dorsal view; anterior medians largest; anterior laterals greater than half diameter of anterior medians; posterior medians relatively large, positioned closer to and on or slightly outside optical axis of anterior lateral eyes; posterior laterals as large or slightly smaller than anterior laterals and set inside lateral margins of carapace when viewed from above; quadrangle formed by posterior median and posterior lateral eyes broader than long and wider behind; entire quadrangle, measured from between bases of anterior medians to posterior margins of posterior laterals, occupying between 47 and 60 per cent of carapace length. *Clypeus*: between 18 and 42 per cent of diameter of anterior median eyes. *Chelicerae*: robust, slightly diverging and inclined anteriorly in females; in males usually elongate, diverging and porrect with median horn of variable length which arises from between the lower margins of the cheliceral bases (Fig. 21B); pro- and retromargins usually with three teeth. *Maxillae*: long and diverging with rounded apices. *Labium*: oblong, generally less than half maxillae length. *Sternum*: more or less as in Figs 3B, 14G; slightly elongate scutiform. *Coxae*: I and II generally larger than III–IV. *Pedice*l: short. *Abdomen*: long slender and tapering; spinnerets moderately long, posteriors longest with long apical articles, anteriors robust, slightly longer than more slender medians; spiracle a transverse slit just in front of anterior spinnerets; tracheal system not examined; position of colulus indicated by scant group of hairs; anal tubercle cone-shaped. *Legs*: long and slender; spines strong and numerous; claws pectinate; tufts present; scopulae absent. *Female palps*: long and slender with apical claw. *Male palps*: moderately complex, intra- and generally inter-specifically distinct. Femora long and bowed; patellae long; tibiae long with broad retrolateral or ventral apophysis; cymbium with hair tuft protecting embolic tip (Fig. 2H), distal finger-like extension, swelling on retrolateral basal margin and usually a group of peg-like spines on dorsal basal margin (Figs 1A; 18A); embolus (e) very long and slender, sometimes thread-like, resting distally in well developed membranous fan-like functional conductor (c), the tip of which ends in a sclerotized spur; a bifid median apophysis arises from a translucent pleated membrane on the tegulum (Figs 1B; 4H); tegulum (t) irregular in form with seminal ducts; median hematodocha in form of a membranous sac between tegulum and subtegulum only evident in fully expanded palps; subtegulum (st) a sclerotized ring at distal end of basal hematodocha (bh). *Epigynes*: of various forms; median septum sometimes present and occasionally bearing lateral pouches; introductory ducts long, simply looped or convoluted, of variable width, sometimes narrow (Fig. 8G, H), or sac-like (Figs 4F, G; 6F) or resembling spermathecae (Fig. 14I, J); spermathecae of various shapes with leaf-like fertilization ducts; spherical objects frequently present in interstitial spaces (Fig. 21C–F).

AFFINITIES. The general habitus, presence of a median cheliceral horn, functional conductor and median apophysis suggest that *Cocalodes* and *Allococalodes* are closely related, even sister groups. Both genera are also probably allied to *Holcolaetis* Simon, from Africa and *Sonoita* Peckham & Peckham from South Africa, as the male palpal organs evidently possess an homologous conductor and median apophysis.

DIAGNOSIS. Males of *Cocalodes* are readily distinguished from other Oriental salticids by the distinctive palpal organs. Females are separated with more difficulty by the geographical distribution, relatively large posterior median eyes, by the structure of the epigynes and by having three teeth on the posterior margin of the chelicerae. A more useful diagnosis or assessment of affinities cannot be given until supposedly related genera have been revised.

REMARKS. 1. The sclerite from which the median horn arises in *Cocalodes* and *Allococalodes* has not been routinely examined in previous revisions and not even in all females of *Cocalodes* in the present study, as the chelicerae have to be displaced or detached from the carapace to expose it. A cursory examination of several Salticidae suggests that the sclerite is present in all members of the family. It is usually seen as

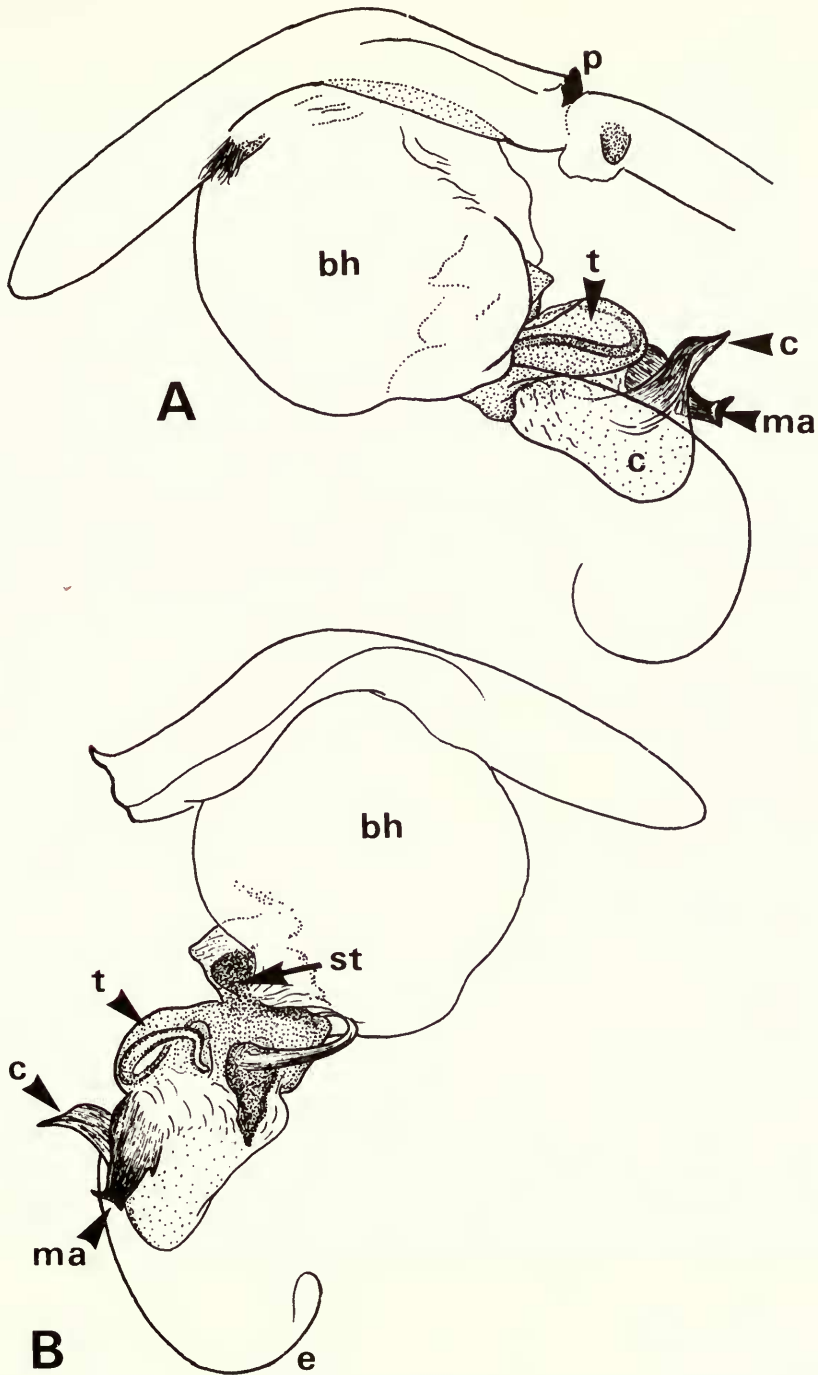


Fig. 1 *Cocalodes papuanus* Simon. Expanded ♂ palp: A, retrolateral; B, prolateral. Abbreviations: bh, basal hematodocha; c, functional conductor; e, embolus; ma, median apophysis; p, peg-like cymbial spines; st, subtegulum; t, tegulum.

an indistinct elongate plate embedded in tissue between the bases of the lower margins of the chelicerae. In females of *Cocalodes thoracicus* Szombathy and in males and females of *Holcolaetis* it forms a peg-like horn similar to that of *C. papuanus* Simon (Fig. 21B). This does not, however, necessarily support a relationship between *Holcolaetis* and *Cocalodes* as our knowledge of the development of this sclerite is inadequate.

2. The spherical objects found clustered or irregularly distributed in the interstitial spaces of the epigynes of most female *Cocalodes* vary in diameter from 8 to 20 μ . Sometimes they can be seen through the cuticle of intact epigynes (Fig. 14H), but they are most readily observed in epigynes which have been cleared in lactic acid (Figs 20F; 21C–F). When examined by transmitted light microscopy most spheres appear to have a refractile centre, but with interference microscopy, the centres are transformed into surface depressions which resemble a lunar crater with indistinct lines radiating outwards from the raised margins (Fig. 21F). Some spheres appear to have collapsed and look ragged with irregular and illdefined craters.

These objects, which are not known to occur in other Salticidae, resemble the unidentified spheres described by Forster (1980) from the epigyne of a *Gamasomorph* species (Family Oonopidae). A consensus of opinion (Forster, 1980) favoured a sporozoan infection, but this seems unlikely in the present case as the spheres lack the rod-like structures illustrated by Forster, furthermore their presence in almost every female of a wide range of species suggests they are a natural feature of these epigynes, which could be associated with spermatogenesis, oviposition or even plugging. Clearly, they require further investigation.

Lists of species in the genus *Cocalodes* Pocock, 1897

- Cocalodes cygnatus* sp. n.
- C. expers* sp. n.
- C. innotabilis* sp. n.
- C. leptopus* Pocock, 1897
- C. longicornis* sp. n.
- C. longipes* (Thorell, 1881)
- C. macellus* (Thorell, 1878)
- C. papuanus* Simon, 1900
- C. platnicki* sp. n.
- C. protervus* (Thorell, 1881)
- C. turgidus* sp. n.
- C. thoracicus* Szombathy, 1915

The species of *Cocalodes* could on the basis of the development of the epigynal septum be divided into two groups. However, these groups have not been proposed as there does not appear to be any correlation with characters of the male palpal organs. This may be a natural phenomenon or the result of incorrectly matching males and females. Matching the sexes has been difficult in the present study and where doubts have existed, these are mentioned in the species descriptions. As is often the case, additional material should resolve many of these problems.

Key to species of *Cocalodes*

Males (the males of *expers*, *protervus* and *turgidus* are unknown)

- | | | | |
|---|---|--------------------------------|---|
| 1 | Dorsal prong of median apophysis broad and distally truncate (Fig. 2C, F); chelicerae with dorsal cluster of stout bristles (Fig. 2A) | <i>papuanus</i> Simon (p. 267) | |
| – | Dorsal prong of median apophysis otherwise; chelicerae lacking stout bristles | | 2 |
| 2 | Peg-like cymbial spines present (Figs 4C; 18A) | | 3 |

- Peg-like cymbial spines absent 8
- 3 Conductor tip cygniform (Fig. 6G) *cygnatus* sp. n. (p. 273)
- Conductor tip otherwise 4
- 4 Dorsal and ventral prongs of median apophysis more or less equal in length (Fig. 10C, D) *thoracicus* Szombathy (p. 280)
- Dorsal prong of median apophysis much longer than ventral prong 5
- 5 Dorsal prong of median apophysis finger-like or scimitar-shaped (Figs 13C, E; 15D, E) 6
- Dorsal prong of median apophysis acuminate (Figs 4C; 7H, I) 7
- 6 Conductor tip forming a triangular plate (Fig. 13G); dorsal prong of median apophysis scimitar-shaped (Fig. 13E) *longipes* (Thorell) (p. 284)
- Conductor tip otherwise (Fig. 15F); dorsal prong of median apophysis finger-like (Fig. 15D, E) *innotabilis* sp. n. (p. 288)
- 7 Conductor tip slender with minute barb (Fig. 7G, I) *macellus* (Thorell) (p. 275)
- Conductor tip robust, barb lacking (Fig. 4H) *leptopus* Pocock (p. 270)
- 8 Dorsal prong of median apophysis relatively slender (Fig. 14D, E); cheliceral horn not protruding beyond clypeal margin *platnicki* sp. n. (p. 286)
- Dorsal prong of median apophysis relatively robust (Fig. 8B, C); cheliceral horn protruding well beyond clypeal margin (Fig. 8A, D) *longicornis* sp. n. (p. 277)

Females (the female of *innotabilis* is unknown)

- 1 Epigyne with median septum 2
- Epigyne lacking median septum 7
- 2 Epigyne with relatively large openings (Fig. 3D) *papuanus* Simon (p. 267)
- Epigyne with relatively small openings 3
- 3 Epigynal septum narrow and not extending to posterior margin (Fig. 7C) 4
- Epigynal septum broad, extending to posterior margin 6
- 4 Clypeus white haired; epigynal openings more or less ovoid in outline (Figs 9B, 7C) 5
- Clypeus not white haired; epigynal openings indistinct (Fig. 8F) *longicornis* sp. n. (p. 277)
- 5 Spermathecae large and dark (Fig. 9B) *protervus* (Thorell) (p. 279)
- Spermathecae small and pale, hardly if at all visible through integument (Fig. 7C, D) *macellus* (Thorell) (p. 275)
- 6 Epigynal septum with median bulge (Fig. 12B) *turgidus* sp. n. (p. 283)
- Epigynal septum lacking median bulge (Fig. 11B, C) *thoracicus* Szombathy (p. 280)
- 7 Epigyne with small median openings and broad posterior ledge (Fig. 14H) *platnicki* sp. n. (p. 286)
- Epigyne otherwise 8
- 8 Epigyne slightly depressed with comma-shaped introductory ducts (Fig. 13B) *longipes* (Thorell) (p. 284)
- Epigyne otherwise 9
- 9 Epigyne with deep median notch on posterior margin (Fig. 5C) *expers* sp. n. (p. 271)
- Epigyne otherwise 10
- 10 Epigyne with two notches on posterior margin (Fig. 6D) *cygnatus* sp. n. (p. 273)
- Epigyne without notches on posterior margin (Fig. 4E) *leptopus* Pocock (p. 270)

***Cocalodes papuanus* Simon**

(Figs 2A–H; 3A–E; 18C, E; 19A, B; 21B)

Cocalodes papuanus Simon, 1900 : 32, ♂. LECTOTYPE ♂ (here designated) Irian Jaya (MNHN, Paris) [examined]. Simon, 1901 : 403–404. Roewer, 1954 : 936. Bonnet, 1956 : 1173. Prószyński, 1971 : 390.

Cocalodes armatissimus Strand, 1913 : 122, ♂. LECTOTYPE ♂ (here designated) Schouten Island (FS, Frankfurt am Main) [examined]. Strand, 1915 : 262. Roewer, 1954 : 936. Bonnet, 1956 : 1172. Prószyński, 1971 : 390. **Syn. n.**

Cocalodes plebejus Szombathy, 1915 : 468, ♂, ♀, immatures. Syntypes (presumably in TM, Budapest) [not examined]. Roewer, 1954 : 936. Bonnet, 1956 : 1173. **Syn. n.**

REMARKS. Szombathy (1915) supplied good figures of the palpal organs in his original description of *C. plebejus* and there is little doubt that *plebejus* and *papuanus* are conspecific.

DIAGNOSIS. Separated from other species of *Cocalodes* by the cluster of cheliceral setae and truncate median apophysis (Fig. 2C, F) in males, and by the large rounded epigynal openings in females (Fig. 3D).

MALE from Madang, Papua New Guinea. In good condition. *Carapace* (Fig. 2A, B): pale yellow-brown grading to orange-brown in eye region with dark brown bands around margins and from PL's to posterior margin of thorax; pale areas clothed in creamy white hairs with orange-brown or black hairs elsewhere. *Eyes*: with black surrounds except AM; fringed in creamy white and pale amber hairs. *Clypeus*: clothed in very fine whitish hairs. *Chelicerae*: elongate, porrect and diverging; orange-brown with dorsal cluster of stout spines; shiny under some angles of illumination; promargin with four teeth, retromargin with two; cheliceral horn small, not protruding beyond clypeal margin. *Maxillae and labium*: pale yellow grading to whitish yellow along inner margins of maxillae. *Sternum*: more or less as in female; pale yellow, shiny. *Coxae*: pale yellow to whitish yellow with black lateral bands on coxae I. *Abdomen*: pale yellow with sooty markings and blackish lateral bands above, greyish black below; clothed in fine iridescent setae; spinnerets pale yellow heavily tinged grey-black except for whitish medians. *Legs*: legs I pale yellow to amber with blackish lateral markings on femora and metatarsi; legs II similar, but lighter with less conspicuous dark markings; legs III pale yellow grading to light amber distally; legs IV as III, but with black lateral markings on patellae, tibiae and metatarsi; spines numerous, strongest on legs I. Spination of legs I: metatarsi v 2-2-2, p 1-0-1, r 1-0-1; tibiae v 2-2-2, p 1-1-1, r 1-1-1, d 1-0-1; patellae 1-0-0, r 1-0-0; femora p 1-1-1, d 1-1-3, r 1-2-1. *Palp* (Figs 2C, E, F, H; 18C, E): the truncate dorsal prong of the median apophysis and pronounced functional conductor are characteristic of this species.

Dimensions (mm): total length 7.88; carapace length 3.02, breadth 2.22, height 1.44; abdomen length 4.84; eyes, anterior row 1.96, middle row 1.68, posterior row 1.68; quadrangle length 1.6 (52% of carapace length). *Ratios*: AM:AL:PM:PL::16:9:6:9; AL-PM-PL::10-13; AM:CL (clypeus)::16:3 (18% of AM diameter).

FEMALE (formerly undescribed) from Madang, Papua New Guinea. In good condition. *Carapace* (Fig. 3A): pale yellow-brown, shiny; clothed in fine whitish hairs with bands composed of amber hairs from posterior lateral eyes to posterior thoracic margin. *Eyes*: as in ♂. *Clypeus*: below anterior median eyes and inner sides of anterior laterals fringed in pale amber hairs with outer sides of anterior laterals densely white haired. *Chelicerae*: robust, porrect and diverging; yellow-brown, shiny; thinly clothed in yellow-brown hairs; both margins with three teeth. *Maxillae and labium*: pale yellow, shiny. *Sternum* (Fig. 3B): pale yellow, shiny. *Coxae*: pale yellow, shiny. *Abdomen*: whitish yellow; irregularly clothed (?partly rubbed) in very fine iridescent setae with longitudinal bands, composed of dark amber hairs, flanked externally by white haired bands on the sides; spinnerets pale yellow tinged grey. *Legs*: pale yellow-brown with blackish lateral streaks on metatarsi IV. Spination of legs I: metatarsi v 4-0-2, p 1-0-1, r 1-0-1; tibiae v 2-3-1, p 1-1-1, r 1-1-1, d 1-0-1; patellae p 1-0-0, r 1-0-0; femora p 0-2-1, d 1-1-2, r 1-2-1. *Epigyne* (Figs 3C-E; 19A, B): clothed in testaceous hairs.

Dimensions (mm): total length 10.8; carapace length 3.76, breadth 2.8, height 1.64; abdomen length 6.8; eyes, anterior row 2.26, middle row 1.96, posterior row 1.96; quadrangle length 1.8 (47% of carapace length). *Ratios*: AM:AL:PM:PL::19:10:5.5:10; AL-PM-PL::11-16; AM:CL::19:5 (26% of AM diameter).

VARIATION. ♂ total length varies from 4.88 to 10.4 mm, carapace length 2.6-3.96 mm (seven specimens). ♀ total length 8.48-10.8 mm, carapace length 2.92-3.76 mm (three specimens).

In males the number of peg-like spines on the cymbium varies from two to four. In one specimen (lectotype of *C. papuanus*) the left palp has two spines on the cymbium while

the right has three. In females the epigyne varies slightly, the dorsal rims of the rounded openings sometimes lie across the posterior margins of the spermathecae.

DISTRIBUTION. Papua New Guinea; Irian Jaya.

MATERIAL EXAMINED. **Papua New Guinea:** Madang Province, Madang, 22.iii.1979 (*H. W. Levi, Y. Lubin, B. Robinson*) (MCZ, Harvard): 1♀, garden, night collection; 1♂, 40 Km S. of Madang, swamp forest. Astrolabe Bay: (*R. Rohde*) (MNHU, Berlin. 17795). **Irian Jaya:** Dorey, Lectotype ♂, (*A. Raffray*) (MNHN, Paris. 5479); Schouten Island,

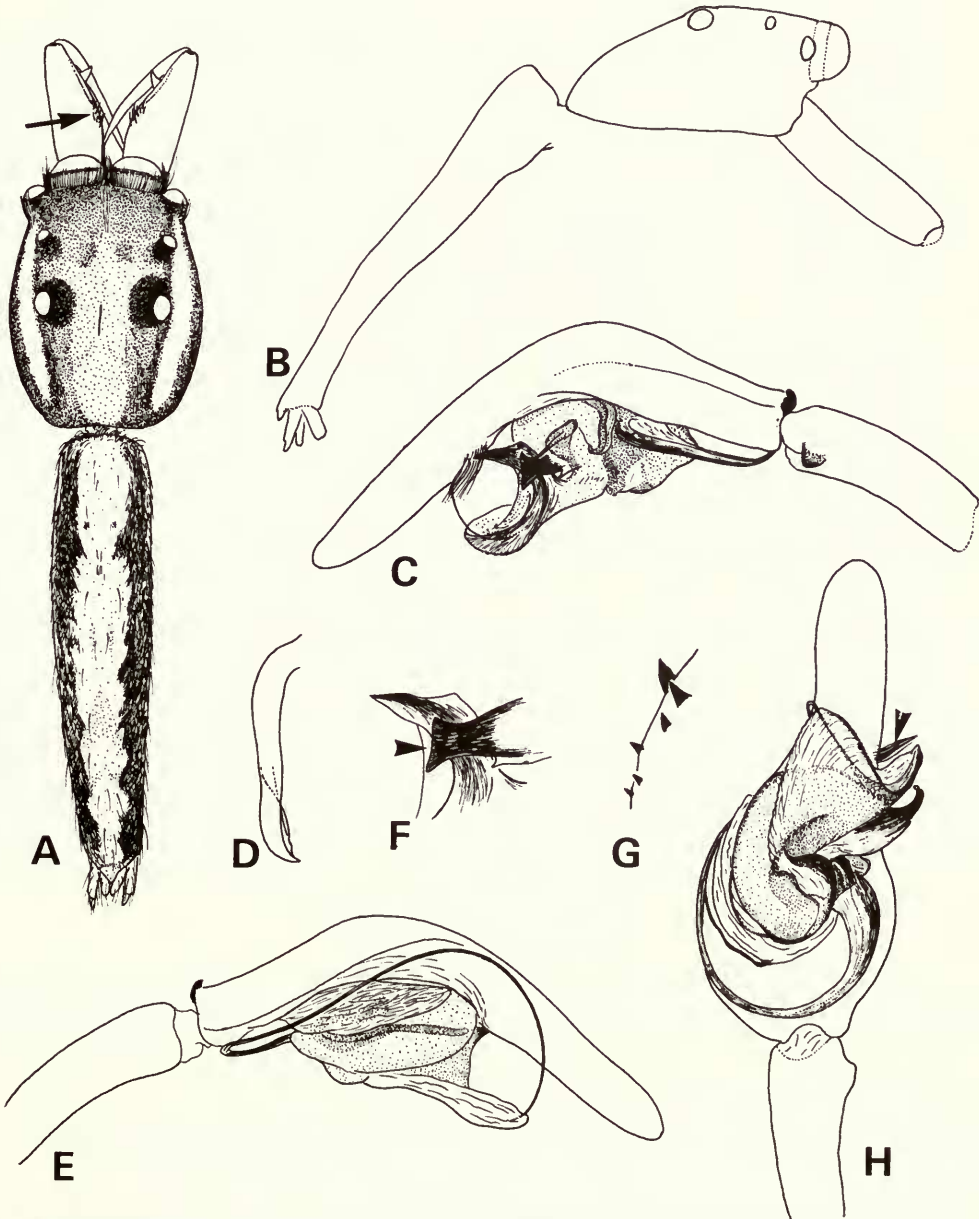


Fig. 2 *Cocalodes papuanus* Simon. ♂: A, dorsal; B, lateral; C, palp, retrolateral; D, cleared fang; E, palp, prolateral; F, median apophysis and tip of functional conductor; G, cheliceral teeth inner view; H, palp, ventral.

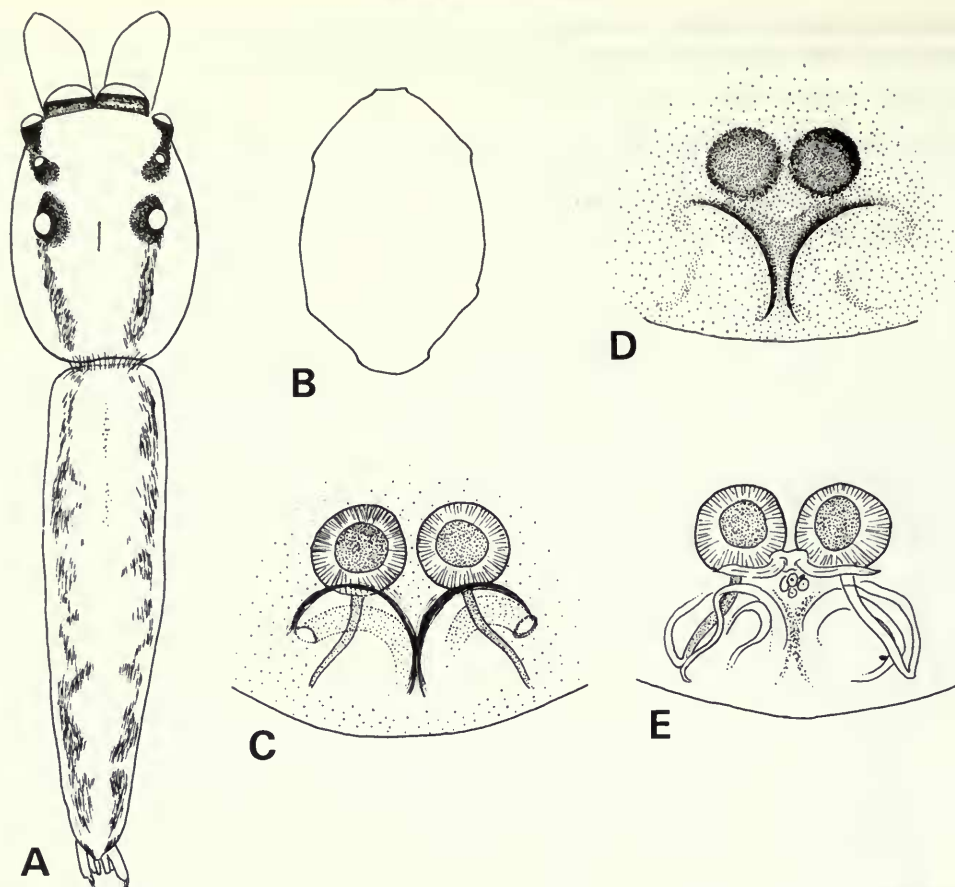


Fig. 3 *Cocalodes papuanus* Simon. ♀: A, dorsal; B, sternum; C, vulva ventral; D, epigyne; E, vulva, dorsal.

Woges, [lectotype ♂ of *C. armatissimus*], 1909, (*E. Wolf*) (FS, Frankfurt am Main. 2431). Sukarnapura (Hollandia) AMNH, New York): 1♂, v. 1945 (*Borys Malkin*); 1♀, rainforest, 250 ft. xii. 1944 (*H. Hoogstraal*); 1♂, on foliage, rainforest, 300 ft. xii. 1944 (*L. W. Saylor*). Sukarnapura: 2♂, 1936 (*L. E. Cheeseman*) (BMNH. 1937.12.13.117); 1♀, 1936 (*L. E. Cheeseman*) (BMNH. 1937.12.13.161).

***Cocalodes leptopus* Pocock**
(Figs 4A–H; 19C, D)

Cocalodes leptopus Pocock, 1897: 628, ♀. Holotype ♀, Indonesia (BMNH) [examined]. Simon, 1901: 403–405. Petrunkevitch, 1928: 181. Roewer, 1954: 936. Bonnet, 1956: 1172. Prószyński, 1971: 390.

Cocalodes melanognathus Pocock, 1897: 629, ♂. Holotype ♂, Indonesia (BMNH) [examined]. Simon, 1901: 403–404. Roewer, 1954: 936. Bonnet, 1956: 1172. Prószyński, 1971: 390. **Syn. n.**

REMARKS. As *C. leptopus* and *C. melanognathus* both originate from Halmahera and are only known from separate sexes, they are regarded here as being conspecific.

DIAGNOSIS. From females of *C. cignatus* and *C. expers* by the apparent absence of a notch or notches on the posterior margin of the epigynal plate (Fig. 4E). From male *cygnatus* by the lack of a white moustache below the anterior median eyes and by the curved tip of the functional conductor (Fig. 4H). Males of *expers* are unknown.

FEMALE HOLOTYPE. In poor condition. *Carapace*: brown-black with orange-brown eye region; irregularly clothed in whitish hairs, especially dense below lateral eyes. *Eyes*: with black surrounds; irregularly fringed in whitish hairs. *Clypeus*: densely white haired. *Chelicerae*: robust, inclined anteriorly and slightly diverging; brown with lighter brown markings; pro- and retromargins with three teeth. *Maxillae* (Fig. 4D): brownish orange grading to yellow-brown along inner margins. *Labium*: brownish orange tipped yellow-brown. *Sternum*: greenish yellow with thin brownish margins; shiny. *Coxae*: dark grey tinged greenish yellow. *Abdomen*: greenish yellow with brownish lateral markings and two pairs of impressed spots dorsally; clothed in whitish hairs (mostly rubbed on dorsum) with irregular longitudinal red haired bands on each side; spinnerets greenish yellow tinged black. *Legs*: brownish orange tinged greyish green, femora IV and patellae IV with black spots; spines strong and numerous. Spination of legs I: metatarsi v 2-0-0, p 1-1-1, d 0-0-2, r 1-1-1; tibiae v 4-4-4; patellae p 1-0-0, r 1-0-0; femora p 1-0-2, d 0-2-2, r 0-1-1. *Epigyne* (Figs 4E-G; 19C, D): a low dark mound with indistinct lateral openings (arrowed in Fig. 4F).

Dimensions (mm): total length 10.0; carapace length 3.56, breadth 3.0, height 2.24; abdomen length 6.56; eyes, anterior row 2.52, middle row 2.12, posterior row 2.16; quadrangle length 1.92 (53% of carapace length). *Ratios*: AM:AL:PM:PL::19:11:7:10; AL-PM-PL::13-15; AM:CL::19:9 (47% of AM diameter).

MALE (holotype of *C. melanognathus*). In poor condition. *Carapace* (Fig. 4A, B): dark chocolate brown with orange-brown eye region; badly rubbed. *Eyes*: with black surrounds except AL and AM. *Clypeus*: irregularly and scantily clothed in fine whitish hairs. *Chelicerae*: elongate, porrect and diverging; dark brown with bluish sheen under some angles of illumination; pro- and retromargins with three teeth; horn small, dislocated by a pin pushed through the specimen, a method frequently used by Pocock for orientating larger spiders. *Maxillae, labium, sternum and coxae*: more or less as in ♀. *Abdomen*: similar to ♀. *Legs*: broken and detached, otherwise similar to ♀. *Palp* (Fig. 4C, H): similar to that of *C. cygnatus*, but readily distinguished by the curved tip of the functional conductor.

Dimensions (mm): total length 8.8; carapace length 3.4, breadth 2.72, height 2.08; abdomen length 5.36; eyes, anterior row 2.48, middle row 2.08, posterior row 2.16; quadrangle length 1.94 (57% of carapace length). *Ratios*: AM:AL:PM:PL::19.5:11.5::7:11; AL-PM-PL::12-15; AM:CL::19.5:5 (28% of AM diameter).

DISTRIBUTION. Indonesia: Halmahera.

MATERIAL EXAMINED. **Halmahera**: Patani, holotype ♀, ii.1894 (*Kükenthal*); Soah Konorah, holotype ♂ [of *C. melanognathus*] 1894 (*Kükenthal*) (BMNH. 1981.1.22.1-2.)

Cocalodes experts sp. n.

(Fig. 5A-C)

DIAGNOSIS. From *C. leptopus* and *C. cygnatus* by the presence of a deep median notch on the posterior margin of the epigynal plate (Fig. 5C).

MALE. Unknown.

FEMALE HOLOTYPE. In good condition. *Carapace* (Fig. 5A, B): orange-brown with vague darker markings; irregularly clothed in short, fine shinning hairs which appear whitish or pale amber under varying angles of illumination. *Eyes*: with black surrounds except AM; fringed in whitish and pale amber hairs. *Clypeus*: densely clothed in creamy white hairs. *Chelicerae*: robust, divergent and inclined anteriorly; orange-brown, thinly clothed in clear amber hairs; pro- and retromargins with three teeth. *Maxillae and labium*: amber, shiny. *Sternum*: light amber with darker margins; thinly covered in light brownish

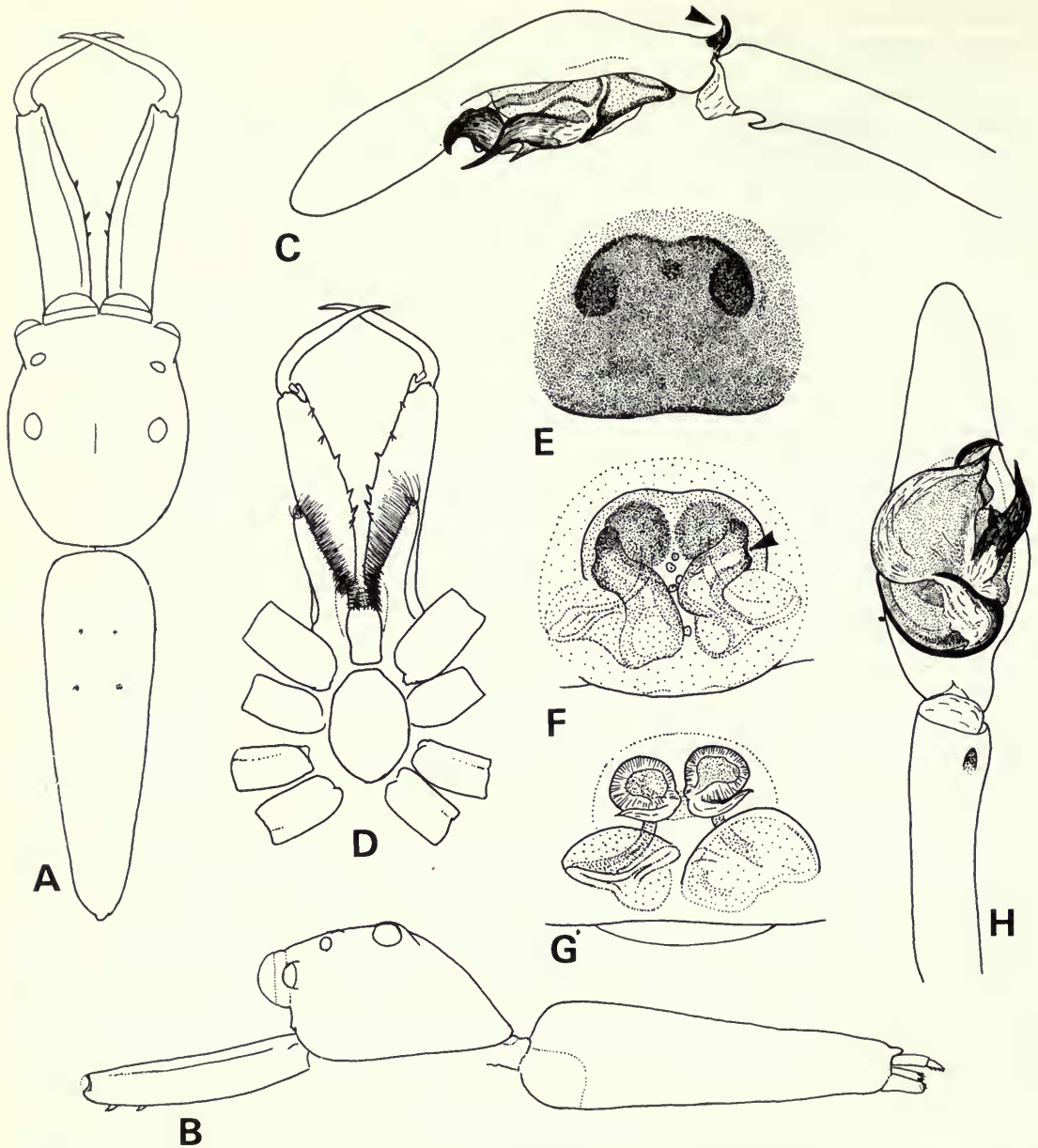


Fig. 4 *Cocalodes leptopus* Pocock. ♂ (holotype of *C. melanognathus*): A, dorsal; B, lateral; C, palp, retrolateral; H, palp, ventral. Holotype ♀: D, sternum, coxae and mouth parts; E, epigyne; F, vulva, ventral; G, vulva, dorsal.

hairs. *Coxae*: light amber. *Abdomen*: pale orange-brown with fine shining hairs, scattered spots composed of amber hairs, and dark reddish brown lateral bands covered in dark amber hairs; spinnerets pale orange-brown. *Legs*: orange-brown with blackish apices on femora IV; spines numerous. Spination of legs I: metatarsi v 2-2-2, p 1-0-1, r 1-0-1; tibiae v 2-2-2, p 1-1-1, d 0-1-0, r 1-1-1; patellae p 0-1-0, r 0-1-0; femora p 2-2-1, d 1-1-3, r 2-1-1. *Epigyne* (Fig. 5C): similar to that of *C. leptopus*, but readily separated by the median notch on the posterior margin of the epigynal plate.

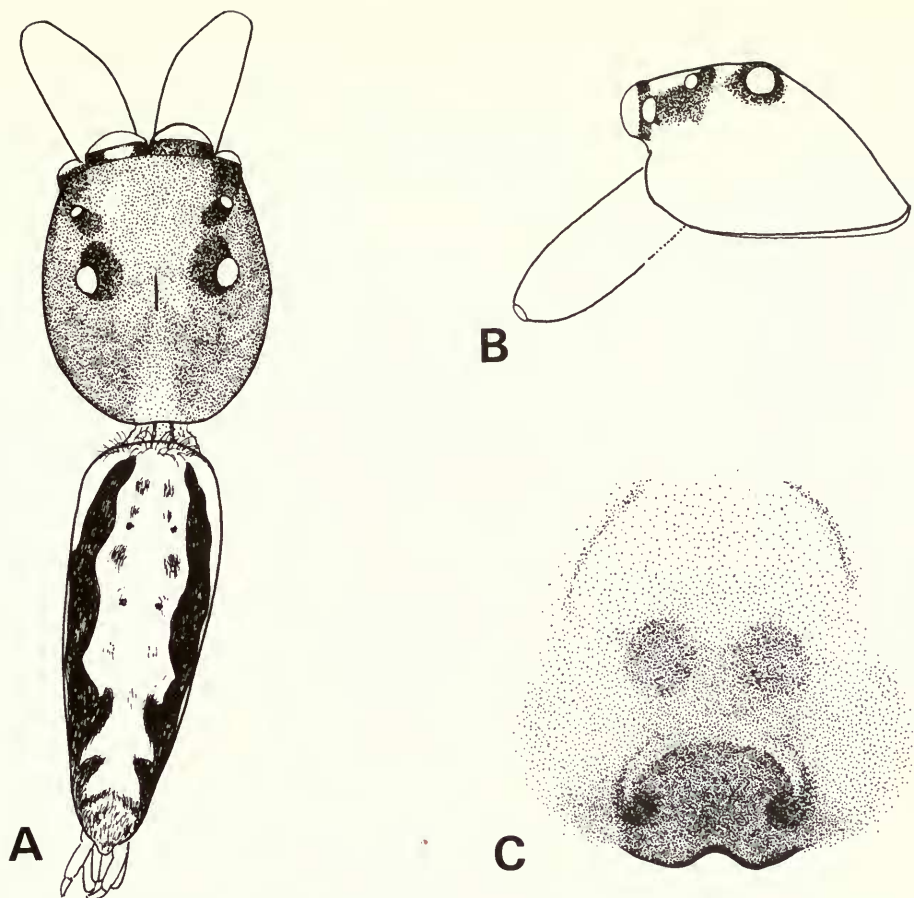


Fig. 5 *Cocalodes expers* sp. n. Holotype ♀: A, dorsal; B, carapace lateral; C, epigyne.

Dimensions (mm): total length 10.9; carapace length 4.5, breadth 3.8, height 2.8; abdomen length 6.24; Eyes, anterior row 3.04, middle row 2.68, posterior row 2.68; quadrangle length 2.28 (50% of carapace length). *Ratios*: AM : AL : PM : PL :: 22 : 14 : 8 : 14; AL-PM-PL :: 14 : 19; AM : CL :: 22 : 8 (36% of AM diameter).

DISTRIBUTION. Papua New Guinea.

MATERIAL EXAMINED. Papua New Guinea, D'Entrecasteaux Is., Fergusson Island, Iamelele about 1.5 miles from Seymour Bay, 15 m., camp 3. holotype ♀, 1956 (Fifth Archbold Exp. to New Guinea, L. J. Brass) (AMNH, New York).

REMARKS. This species has been recorded from the same locality (Fergusson Island) as *C. longicornis* sp. n.

***Cocalodes cygnatus* sp. n.**

(Figs 6A-G; 19E, F)

DIAGNOSIS. From females of *C. leptopus* and *C. expers* by the presence of two small notches on the posterior margin of the epigynal plate (Fig. 6D). From male *leptopus* by the white moustache below the anterior median eyes and by the cygniform tip of the functional conductor (arrowed, Fig. 6G). Males of *expers* are unknown.

MALE HOLOTYPE. In fair condition. *Carapace* (Fig. 6A, B): orange-brown with dark

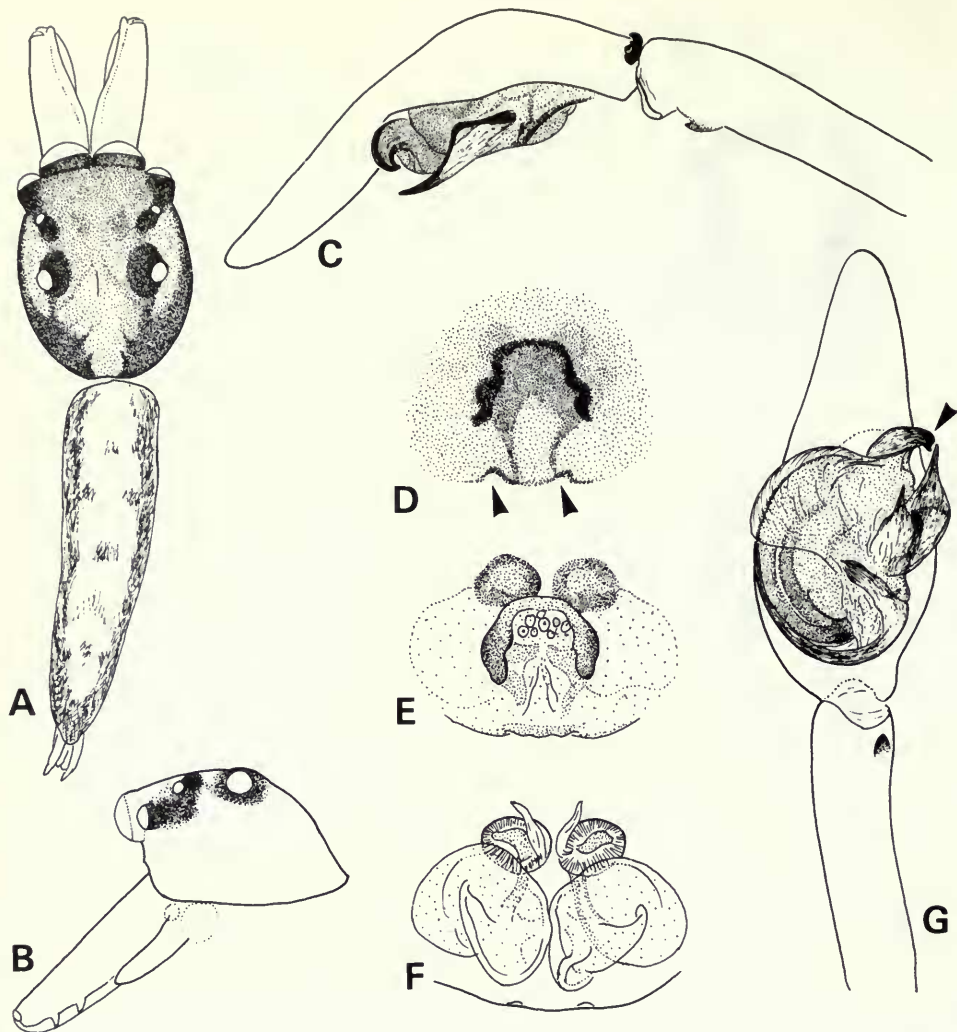


Fig. 6 *Cocalodes cygnatus* sp. n. Holotype ♂: A, dorsal; B, carapace, lateral; C, palp, retrolateral; G, palp, ventral. Paratype ♀: D, epigyne; E, vulva, ventral; F, vulva, dorsal.

brown margins and vague bands behind PL's; thinly clothed in whitish and pale amber hairs with scanty white haired patches on posterior declivity. *Eyes*: with black surrounds except AM; fringed by white hairs. *Clypeus*: densely white haired below AM. *Chelicerae*: elongate, porrect and diverging; dark reddish brown; shiny; thinly covered in pale amber hairs; pro- and retromargins with three teeth; horn small, not protruding beyond clypeal margin. *Maxillae*: brownish with inner margins orange-brown. *Labium*: dark brown tipped orange-brown. *Sternum*: yellow-brown with darker margins. *Coxae*: yellow-brown with black lateral stripes on coxae I. *Abdomen*: mottled grey-black with creamy white dorsal markings; spinnerets yellow-brown tinged black. *Legs*: legs I femora brown-black with yellow-brown markings, patellae and tarsi yellow-brown, tibiae dark brown with yellow-brown annuli, metatarsi basally yellow-brown grading to dark brown distally; other legs similar, but markings becoming paler except for brown-black blotches on femora IV: spines strong and numerous. Spination of legs I: metatarsi v 2-0-0, p 1-1-1, d 0-1-2, r 1-1-1; tibiae v 2-2-2, p 1-1-1, d 1-1-0, r 1-1-1; patellae p 1-0-0,

r 1-0-0; femora p 1-1-2, d 0-2-2, r 0-1-1. *Palp* (Fig. 6C, G): the tip of the functional conductor is sometimes obscured by the tip of the median apophysis. Also, in lateral view the ventral prong of the median apophysis is hardly evident, c.f. (*C. leptopus*).

Dimensions (mm): total length c. 8.2; carapace length 3.16, breadth 2.6, height 2.0; abdomen length 5.0; eyes, anterior row 2.36, middle row 1.98, posterior row 2.04; quadrangle length 1.84 (58% of carapace length). *Ratios*: AM:AL:PM:PL::19:11:5.5:10; AL-PM-PL::11-15; AM:CL::19:8 (42% of AM diameter).

FEMALE PARATYPE. In poor condition. *Carapace*: generally yellow-brown with blackish bands from PL's to thoracic margin; sparsely and irregularly clothed in creamy white hairs. *Eyes*: with black surrounds except AM; fringed in silky white hairs. *Chelicerae*: robust, diverging and inclined anteriorly; amber; shiny under some angles of illumination; with scattered pale amber hairs along inner margins; pro- and retromargins with three teeth. *Maxillae, labium, sternum and coxae*: yellow-brown. *Abdomen*: pale yellow-brown; clothed in fine whitish hairs with irregular lateral bands composed of amber hairs; spinnerets pale yellow-brown. *Legs*: generally yellow-brown, but with black spots on patellae IV and femora IV; spines strong and numerous on anterior legs becoming weaker and fewer on posteriors. Spination of legs I: metatarsi v 2-0-0, p 1-1-1, d 0-1-0, r 1-1-1; tibiae v 2-2-2, p 1-1-1, d 1-0-1, r 1-1-1; patellae r 1-0-0; femora p 1-1-1, d 0-2-3, r 0-1-1. *Epigyne* (Figs 6D-F; 19E, F): a low mound as is *leptopus*, but pale and with more apparent detail.

Dimensions (mm): total length c. 8.0; carapace length 3.16, breadth 2.68, height 2.0; abdomen length 4.8; eyes, anterior row 2.44, middle row 2.07, posterior row 2.10; quadrangle length 1.88 (59% of AM diameter). *Ratios*: AM:AL:PM:PL::19:11.5:6:11; AL-PM-PL::12:15; AM:CL::19:c. 8 (c. 42% of AM diameter).

VARIATION. Paratype ♂ measures c. 7.2 mm total length, 2.8 mm carapace length.

DISTRIBUTION. Indonesia: Halmahera Island.

MATERIAL EXAMINED. **Halmahera Island:** Edkor, holotype ♂, paratype ♀ (MNHN, Paris. 7682). Paratype ♂, same data as holotype (BMNH, 1981.5.14.1).

REMARKS. Simon misidentified the above specimens as *C. leptopus*, but as far as I am aware there has been no reference to them in the literature.

Cocalodes macellus (Thorell)

(Figs 7A-I; 20A, B)

Cocalus macellus Thorell, 1878:287, 311, ♀ and juvenile. Holotype ♀, juvenile, Amboina (MCSN, Genova) [examined]. Thorell, 1881:493, 706. Simon, 1901:407. Roewer, 1954:934. Bonnet, 1956:1173. Prószyński, 1971:391. Wanless, 1981:256.

DIAGNOSIS. From other species of *Cocalodes* by the long slender prongs of the median apophysis (Fig. 7H, I) in males, and the appearance of the epigyne (Figs 7C-F; 20A, B) in females.

HOLOTYPE FEMALE. In fair condition. *Carapace*: yellow-brown with pale yellowish eye region. *Eyes*: with black surrounds except AM; fringed in whitish hairs. *Clypeus*: densely white haired. *Chelicerae*: yellow-brown thinly clothed in testaceous hairs; pro- and retromargins with three teeth. *Maxillae*: yellow-brown with pale yellow blades. *Labium*: yellow-brown tipped yellow. *Sternum*: yellow-brown. *Abdomen*: long and tapered; pale yellow. *Legs*: generally yellow-brown; spines strong and numerous on legs I becoming weaker and fewer on posterior legs. Spination of legs I: metatarsi v 2-2-2, p 1-0-0, d 0-2-2, r 1-0-0; tibiae v 2-4-0, p 1-1-2, d 1-1-0, r 1-1-2; patellae p 1-0-0, r 1-0-0; femora p 1-0-1, d 1-1-3, r 0-1-0. *Epigyne* (Fig. 7D): somewhat translucent; the ducts will probably be less evident in freshly preserved specimens.

Dimensions (mm): total length c. 7.8; carapace length 2.88, breadth 2.34, height 1.72; abdomen length 4.88; eyes, anterior row 2.2, middle row 1.92, posterior row 2.0; quadrangle length 1.64 (56% of carapace length). *Ratios*: AM:AL:PM:PL :: 17:11:6:10; AL-PM-PL :: 9-12; AM:CL :: 17:3.5 (20% of AM diameter).

MALE (formerly undescribed) from Draeger Harbor, Papua New Guinea. In fair condition. *Carapace* (Fig. 7A, B): dark mahogany grading to orange-brown in eye region; irregularly clothed in short amber hairs (?rubbed) with white haired marginal band from level of coxae II to IV. *Eyes*: with black surrounds except AM; fringed by shining pale amber, and white hairs. *Clypeus*: fringed in light brownish hairs. *Chelicerae*: moderately elongate and porrect, more or less parallel; dark orange-brown, lighter distally; thinly clothed in fine light brownish hairs; teeth not examined; horn not evident. *Maxillae*: dark orange-brown with yellow-brown blades. *Labium*: dark orange-brown. *Sternum*: yellow-brown with amber margins, shiny; sparsely clothed in fine clear hairs. *Coxae*: coxae I yellow-brown below, dark mahogany above; other coxae yellow-brown. *Abdomen*: badly

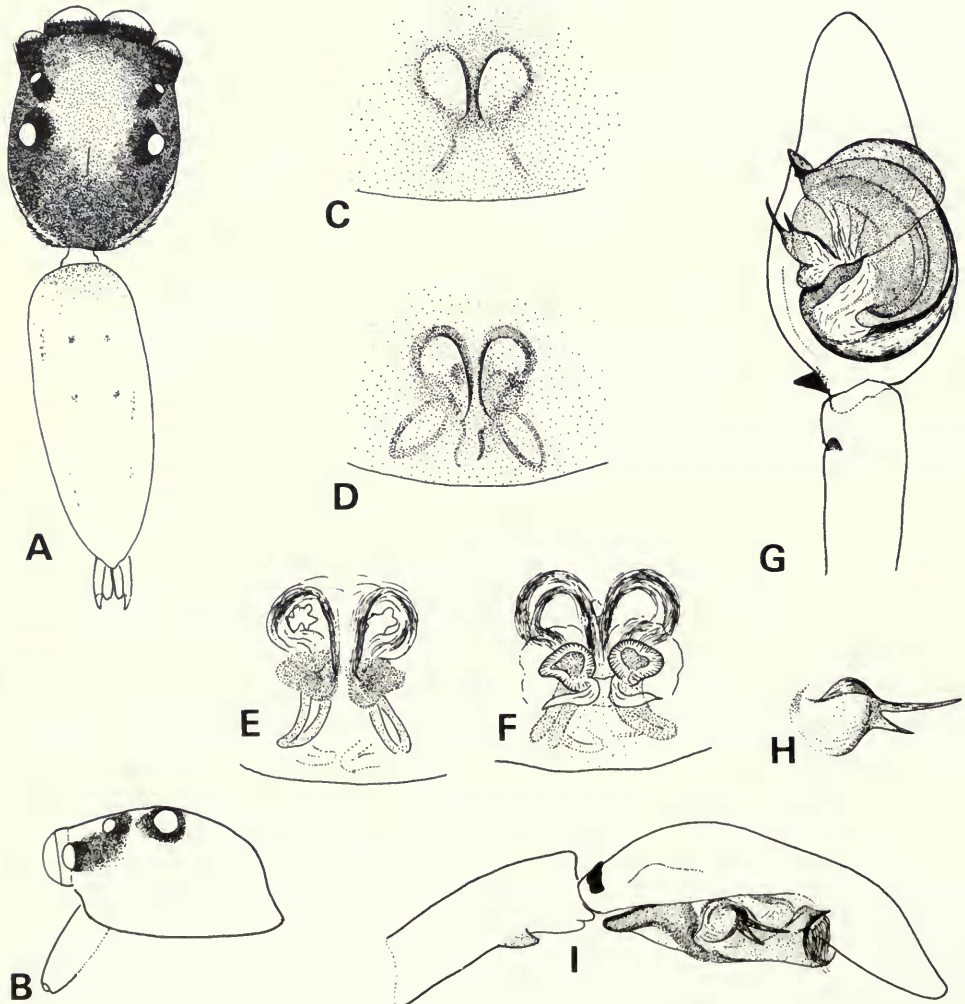


Fig. 7 *Cocalodes macellus* (Thorell). ♂: A, dorsal; B, carapace, lateral; G, palp, ventral; H, median apophysis; I, palp, retrolateral. Holotype ♀: D, epigyne. C, epigyne of another specimen; E, vulva, ventral; F, vulva, dorsal.

rubbed; yellow-brown with a dark patch anteriorly and ventral grey longitudinal band. *Legs*: legs I with tarsi and patellae yellow-brown, metatarsi yellow-brown suffused with black distally, tibiae dark mahogany with apices yellow-brown, femora dark mahogany; legs II–III yellow-brown; legs IV missing; spines strong and numerous. Spination of legs I: metatarsi v 2–2–2, p 1–0–0, d 1–2–2, r 1–0–0; tibiae v 3–2–4, p 0–1–1, d 1–1–0, r 1–1–1; patellae p 1–0–0, r 1–0–0; femora p 0–1–1, d 0–2–2. *Palp* (Fig. 7G–I): femora brown-black with distal third light yellow, other segments light yellow; both prongs of median apophysis relatively long and slender.

Dimensions (mm): total length 5·68; carapace length 2·32, breadth 1·92, height 1·48; abdomen length 3·2; eyes, anterior row 1·85, middle row 1·56, posterior row 1·72; quadrangle length 1·4 (60% of carapace length). *Ratios*: AM:AL:PM:PL :: 15:9:4:8·5; AL–PM–PL :: 9·5–10; AM:CL :: 15:4·5 (30% of AM diameter).

VARIATION. ♀ from Papua New Guinea measures c. 6·9 mm total length, 2·76 mm carapace length.

The epigyne (Fig. 7C) is slightly less translucent and the looped ducts are less conspicuous.

DISTRIBUTION. Indonesia: Amboina; Papua New Guinea.

MATERIAL EXAMINED. **Amboina**: holotype ♀, juvenile, (*O. Beccari*) (MCSN, Genova). **Papua New Guinea**: Draeger Harbour, 5 miles E. of Finschhafen, 1♀, vi. 1944 (*G. H. Penn*) (AMNH, New York); Nr. River Song, 6 miles W. of Finschhafen, 1♂, viii–ix. 1944, (*T. F. Delaney*) (AMNH, New York).

Cocalodes longicornis sp. n.

(Figs 8A–H; 21A)

DIAGNOSIS. From males of *C. longipes* and *C. innotabilis* by the absence of peg-like cymbial spines, and from male *C. platnicki* by the thickened dorsal prong of the median apophysis (Fig. 8B, C). Females, presumed to be of this species, most closely resemble females of *C. macellus*, but may be separated by the lack of a dense covering of white hairs on the clypeus and by the laterally extended introductory ducts (Figs 8F, G, H; 21A) of the epigynum.

MALE HOLOTYPE. In fair condition. *Carapace* (Fig. 8A, D): dark rufose with eye region dark amber; sparsely clothed in short fine amber hairs with whitish hairs in foveal region and a narrow marginal band of white hairs extending from level of coxae II to IV. *Eyes*: with black surrounds except AM; fringed by shining amber hairs with white hairs outside AL's. *Clypeus*: densely white haired below AM, sparsely amber haired below AL. *Chelicerae*: elongate, porrect and diverging; rufose; shiny; pro- and retro-margins evidently with three teeth; horn well developed and protruding well beyond clypeal margin. *Maxillae*: orange-brown grading to yellow-brown along inner margins. *Labium*: orange-brown. *Sternum*: orange-brown with darker margins; sparsely clothed in coarse black hairs marginally with fine pale brown hairs centrally. *Coxae*: orange-brown. *Abdomen*: dull orange-brown with blackish lateral bands above and central blackish band below; spinnerets orange-brown. *Legs*: legs I–II dark rufose with orange-brown tarsi, other legs rufose grading to orange-brown distally; spines strong and numerous. Spination of legs I: metatarsi v 2–2–2, p 1–0–1, d 0–1–0, r 1–0–1; tibiae v 2–2–2, p 1–1–1, d 1–1–0, r 1–1–1; patellae p 1–0–0, r 1–0–0; femora r 1–1–1, d 0–2–3, p 1–1–1. *Palp* (Fig. 8B, C, E).

Dimensions (mm): total length 10·16; carapace length 4·28, breadth 3·5, height 2·64; abdomen length 5·84; eyes, anterior row 2·84, middle row 2·48, posterior row 2·5; quadrangle length 2·12 (49% of carapace length). *Ratios*: AM:AL:PM:PL :: 21:13·5:8:13; AL–PM–PL :: 12–18; AM:CL :: 21:7·5 (35% of AM diameter).

FEMALE PARATYPE. In fair condition. *Carapace*: orange-brown with reddish brown eye region and dark red-brown markings from PL's to thoracic margin; clothed in fine shining hairs (mostly rubbed). *Eyes*: with black surrounds except AM; fringed by whitish and pale amber hairs. *Clypeus*: fringed in whitish hairs. *Chelicerae*: robust, inclined anteriorly and slightly diverging; reddish with darker markings; shiny; sparsely fringed in pale amber hairs; pro- and retromargins with three teeth. *Maxillae and labium*: amber. *Sternum*: amber with darker margins; shiny; thinly clothed in fine light amber hairs. *Abdomen*: long and tapered; dull yellow-brown with blackish lateral markings; spinnerets yellow-brown. *Legs*: legs I amber with darker metatarsi; other legs amber to pale amber with black spots on femora IV; spines strong and numerous. Spination of legs I: metatarsi v 2-2-2, p 1-0-1, d 0-1-1, r 1-0-1; tibiae v 3-2-2, p 0-1-1, d 0-1-0, r 1-1-1; patellae p 1-0-0,

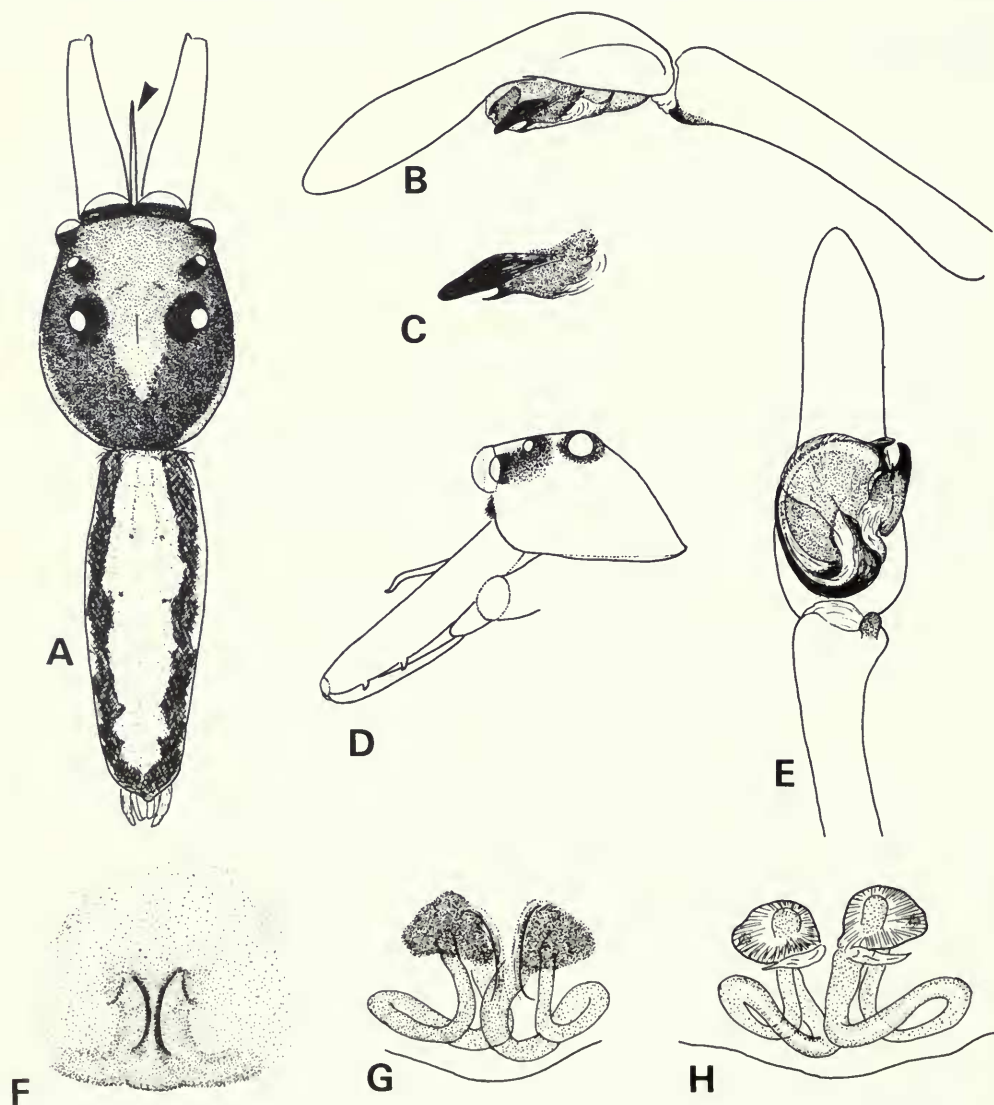


Fig. 8 *Cocalodes longicornis* sp. n. Holotype ♂: A, dorsal; B, palp, retrolateral; C, median apophysis; D, carapace and chelicera, lateral; E, palp, ventral. Paratype ♀: F, epigyne; G, vulva, ventral; H, vulva dorsal.

r 1-0-0; femora p 1-1-1, d 0-2-3, r 0-1-0. *Epigyne* (Fig. 8F-H; 21A): relatively simple, the openings lead into narrow introductory ducts which extend and loop laterally before joining the spermathecae.

Dimensions (mm): total length c. 6.4; carapace length 3.32, breadth 2.88, height 2.08; abdomen length c. 3.0; eyes, anterior row 2.6, middle row 2.32, posterior row 2.44; quadrangle length 2.0 (60% of carapace length). *Ratios*: AM:AL:PM:PL::19:12:7:12; AL-PM-PL::13:15.5; AM:CL::19:5 (26% of AM diameter).

VARIATION. ♂ total length varies from 10.0 to 10.16 mm, carapace length 3.76-4.16 mm (three specimens). Another ♀ measures c. 8.0 mm total length, 3.0 mm carapace length.

DISTRIBUTION. Papua New Guinea.

MATERIAL EXAMINED. **Papua New Guinea**: D'Entrecasteaux Islands, Normanby Island, Mt. Pabinama, about 3 miles ENE of Cape Prevost, 820 m, camp 2, 1956 (*J. L. Brass*, 5th Archbold Exp., to New Guinea) holotype ♂, (AMNH, New York), paratype ♂ (BMNH. 1981.2.2.1); Fergusson Island, Agamoia about 3 miles S. of Lake Ruaba, 200 m, camp 5, 18-24. vi.1956 (*J. L. Brass*, 5th Archbold Exp., to New Guinea) paratype ♂, paratype ♀, (AMNH, New York); New Britain, Ralum, (nr. Kokopo) Lowan, on tree trunk, paratype ♀, 27.xii.1896 (*F. Dahl*) (MNHU, Berlin. 17799).

Cocalodes protervus (Thorell)
(Fig. 9A-B)

Cocalus protervus Thorell, 1881:493, ♀. Holotype ♀, West Irian (MCSN, Genova) [examined]. Simon, 1901:407. Roewer, 1954:935. Bonnet, 1956:1174. Prószyński, 1971:391. Wanless 1981:256.

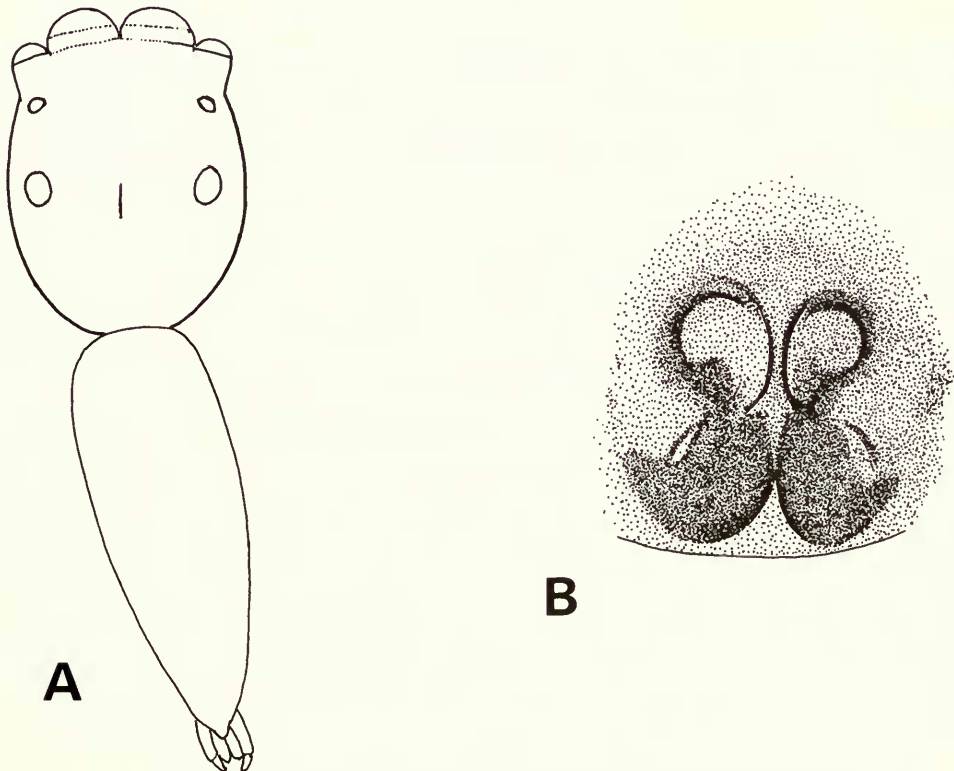


Fig. 9 *Cocalodes protervus* (Thorell). Holotype ♀: A, dorsal; B, epigyne.

DIAGNOSIS. Similar to *C. macellus* and *C. longicornis* from which it differs by the large darkened spermathecae (Fig. 9B).

MALE. Unknown.

FEMALE HOLOTYPE. In poor condition. *Carapace* (Fig. 9A): brownish with scattered white hairs, rubbed. *Eyes*: with black surrounds except AM; fringed by whitish hairs. *Clypeus*: densely white haired. *Chelicerae*: robust, inclined anteriorly and slightly diverging; brownish with sooty markings; sparsely clothed in light brown hairs; pro- and retromargins with three teeth. *Maxillae and labium*: pale brown. *Sternum*: pale brown with darker margins. *Coxae*: generally brownish. *Abdomen*: greyish yellow with darker somewhat mottled longitudinal lateral markings; clothed in short recumbent amber hairs. *Legs*: dark brown; spines long, slender and numerous. Spination of legs I: metatarsi v 2-2-2, p 1-2-1, d 1-0-0, r 1-0-1; tibiae v 4-3-3, p 0-2-1, d 1-1-0, r 0-0-1; patellae p 1-0-0, r 1-0-0; femora p 0-1-1, d 0-2-3, r 0-2-0. *Epigyne* (Fig. 9B): rather dark, openings separated by distinct septum with black disc-like spermathecae posteriorly.

Dimensions (mm): total length 6.8; carapace length 3.04, breadth 2.46, height 1.84; abdomen length 3.84; eyes, anterior row 2.32, middle row 1.98, posterior row 2.08; quadrangle length 1.72 (56% of carapace length). *Ratios*: AM:AL:PM:PL::18:11:6:10; AL-PM-PL::11-13; AM:CL::18:c. 7 (c. 38% of AM diameter).

DISTRIBUTION. West Irian.

MATERIAL EXAMINED. **West Irian**: Pulo Faor, holotype ♂, 1872, (*L. M. D'Albertis*) (MCSN, Genova).

***Cocalodes thoracicus* Szombathy**
(Figs 10A-E; 11A-E; 18D; 20C, D)

Cocalodes thoracicus Szombathy, 1915:470, ♂, ♀. Syntypes, Papua New Guinea (?in Természettudományi Múzeum, Budapest) [not examined]. Roewer, 1954:936. Bonnet, 1956:1173.

REMARKS. Although it was not possible to examine the type specimens of *C. thoracicus* it may be recognized with a fair degree of confidence from Szombathy's original figures, which show the distal cheliceral lobes (arrowed, Fig. 10A) to be more pronounced in this species than in others of the genus.

DIAGNOSIS. From other species of *Cocalodes* by the more or less equal development of the prongs of the median apophysis (Figs 10C, D; 18D) in males, and by the relatively broad epigynal septum (Fig. 11B, C) in females.

MALE from Morobe Province. In good condition, but legs detached. *Carapace* brown-black with dark orange-brown eye area and central yellow-brown stripe from foveal region to posterior margin; clothed dorsally in fine shining pale amber and whitish hairs with short coarse black hairs around thoracic margins. *Eyes*: with black surrounds except AM; fringed by pale amber and whitish hairs. *Clypeus*: sparsely covered in pale amber and blackish hairs. *Chelicerae*: elongate and porrect with distal lobes; black with bluish metallic sheen under some angles of illumination; proximally sparsely clothed in stiff black hairs; promargin with four teeth, retromargin with two; horn protruding just beyond clypeal margin. *Maxillae*: brownish black grading to yellow-brown distally. *Labium*: brown-black tipped yellow-brown. *Sternum*: yellow-brown faintly tinged black with brownish orange margins. *Coxae*: pale yellow. *Abdomen*: with four impressed spots; mottled grey-black with a dorsal greyish yellow band having vague sooty markings; ventrally a longitudinal black stripe; irregularly clothed in minute setae with scattered long blackish hairs; spinnerets mottled yellow-brown and black. *Legs*: legs I tarsi pale yellow, metatarsi black with pale yellow basal region, tibiae black distally grading to dark yellow-brown to black proximally, patellae black distally grading to yellow-brown proximally,

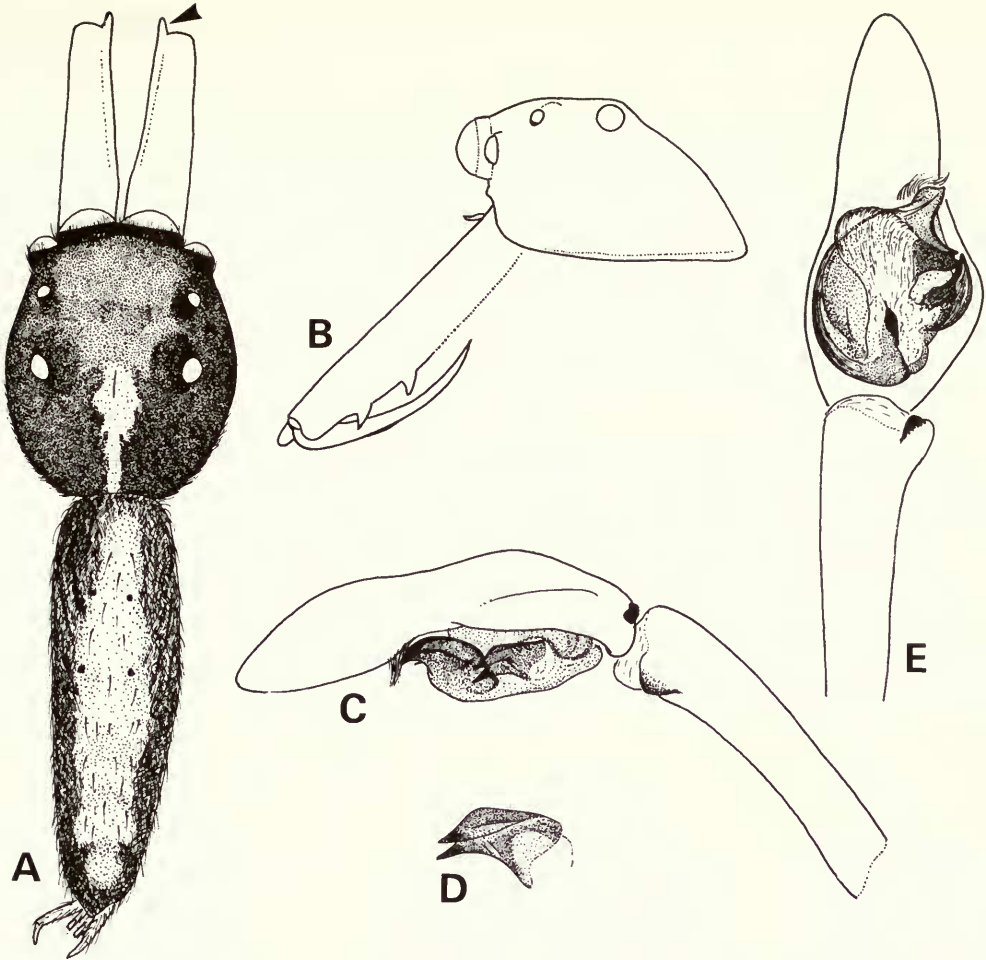


Fig. 10 *Cocalodes thoracicus* Szombathy. ♂: A, dorsal; B, carapace, lateral; C, palp, retrolateral; D, median apophysis; E, palp, ventral.

femora yellow to yellow-brown; legs II as I, but tibiae and patellae yellow-brown; legs III yellow-brown to pale yellow-brown; legs IV similar, but with vague darker markings; spines strong and numerous. Spination of legs I: matatarsi v 2-2-2, p 1-0-0, r 1-0-1; tibiae v 2-2-2, p 1-1-1, d 1-1-0, r 1-1-1; patellae p 1-0-0, r 1-0-0; femora p 1-1-2, d 0-2-1, r 0-1-2. *Palp* (Figs 10C-E; 18D).

Dimensions (mm): total length 9.28; carapace length 3.48, breadth 3.16, height 2.28; abdomen length 5.36; eyes, anterior row 2.56, middle row 2.28, posterior row 2.37; quadrangle length 2.08 (59% of carapace length). *Ratios*: AM:AL:PM:PL :: 20:12:8:12; AL-PM-PL :: 13-15.5; AM:CL :: 20:5 (25% of AM diameter).

FEMALE from Madang Province. In good condition. *Carapace* (Fig. 11A): yellow-brown with orange-brown eye region, a thin dark brown border line, lateral brownish stripes and dark brown bands from PL's to thoracic margin; clothed in very fine shining amber and whitish hairs. *Eyes*: with black surrounds except AM; fringed in shining pale amber and whitish hairs. *Clypeus*: sparsely covered in white hairs. *Chelicerae*: robust, inclined anteriorly and diverging; yellow-brown; shiny; thinly clothed in testaceous hairs; promargin with four teeth, retromargin with three. *Maxillae and labium*: pale yellow-brown. *Sternum*: pale yellow-brown with darker margins; sparsely clothed in

testaceous hairs. *Coxae*: pale yellow-brown. *Abdomen*: similar to ♂ except for pale yellow venter and covering of dark amber hairs over lateral bands. *Legs*: legs I yellow-brown with darker markings and a black streak on inside of femora; legs II yellow-brown with brownish markings; legs III yellow-brown; legs IV yellow-brown with brownish markings and black spots on femora and patellae; spines strong and numerous. Spination of legs I: metatarsi v 2-2-2, p 1-0-1, r 1-0-1; tibiae v 2-2-2, p 1-1-2, r 1-1-1; patellae p 1-0-0, r 1-0-0; femora p 0-2-2, d 0-2-1, r 0-2-0. *Epigyne* (Figs 11B-E; 20C, D): relatively simple, but variable; the obscure openings (arrowed, Fig. 11D) lead into wide ducts which narrow and loop posteriorly before entering the spermathecae.

Dimensions (mm): total length 9.28; carapace length 3.32, breadth 2.84, height 1.96; abdomen length 5.6; eyes, anterior row 2.44, middle row 2.2, posterior row 2.28; quadrangle length 1.92 (57% of carapace length). *Ratios*: AM : AL : PM : PL :: 18 : 12 : 7 : 11; AL-PM-PL :: 12.5-15; AM : CL :: 18 : 5 (27 per cent of AM diameter).

VARIATION. ♂ total length varies from 6.9 to 11.5 mm, carapace length 2.72-4.4 mm (14 specimens). ♀ total length 7.28-10.8 mm, carapace length 2.84-4.08 mm (nine specimens).

The cheliceral horn, possibly an allometric growth character, only protrudes well beyond the clypeus in large specimens. The epigynal septum varies from rectangular to triangular in outline (Fig. 11B, C) and the rod-like extensions of the spermathecae (in reality part of the introductory ducts), are not always evident in uncleared epigynes.

DISTRIBUTION. Papua New Guinea; Irian Jaya.

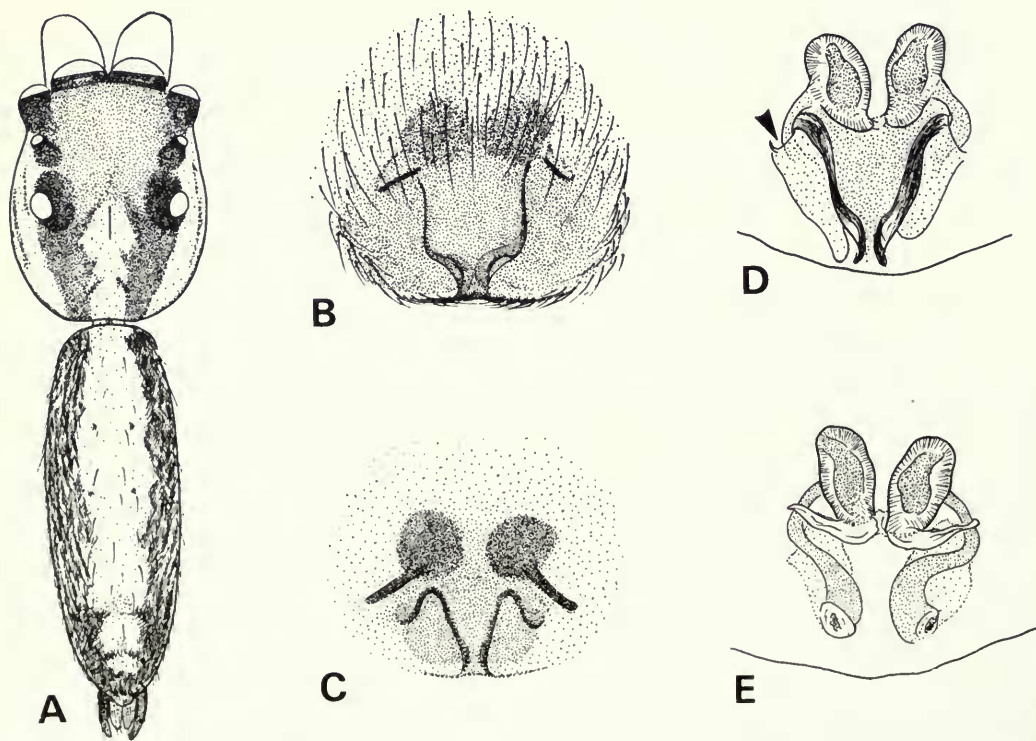


Fig. 11 *Cocalodes thoracicus* Szombathy. ♀: A, dorsal; B, epigyne; C, epigyne of another specimen; D, vulva, ventral; E, vulva, dorsal.

MATERIAL EXAMINED. **Papua New Guinea:** Morobe Province, Wau: 1♀, iv.1979 (*H. W. Levi*); 1♀, iv.1979 (*M. Robinson*); 1♀, iv.1979, beating vegetation in forest, (*H. W. Levi*); 3♂♂, 1♀, McAdam Park, 4.iv.1979 (*H. W. Levi, Y. Lubin, M. Robinson*); Madang Province, 25 Km, N. of Madang, teak forest, night collection, 1♂, 21.iii.1979 (*H. W. Levi, Y. Lubin, B. Robinson*) (MCZ. Harvard); Draeger Harbour: 5 miles E. of Finschhafen, 1♂, vi.1944 (*G. H. Penn*) (AMNH, New York); Maffin Bay: 1♂, xii.1944 (*Lt. Geo. B. Sirotiak*) (AMNH, New York); Astrolabe Bay, 1♀, (*R. Rohde*) (MNHN, Berlin. 17794); Ramu, 1♂, (*F. Dahl, Ramu Expedition*) (MNHN, Berlin. 17801); Jagei River, 1♂, 2.viii.1896 (*Lauterbach*) (MNHN, Berlin, 17796). **Irian Jaya:** Sukarnapura (Hollandia): 2♂♂, 5.i.1945 (*L. W. Saylor*); 1♂, iv.1945 (*Borys Malkin*); 1♂, 14.v.1945 (*Borys Malkin*); rain forest, 250 ft. 2♂♂, xii.1944 (*H. Hoogstraal*) (AMNH, New York); Humboldts Bay, 200 ft. 1♀, iv.1936 (*L. E. Cheesman*) (BMNH. 1937.12.13.425); Cyclops Mts. Sabron, 2,200 ft. 1♀, v.1936 (*L. E. Cheesman*) (BMNH. 1937.12.13.541).

***Cocalodes turgidus* sp. n.**

(Figs 12A–D; 20E, F)

DIAGNOSIS. Like *C. thoracicus*, but differs by the median swelling of the epigynal septum (Fig. 12B).

MALE. Unknown.

FEMALE HOLOTYPE. In fair condition. *Carapace* (Fig. 12A): yellow-brown with orange-brown eye region, dark brown lateral margins and dark brown stripes below the lateral eyes to posterior margin; clothed in minute creamy white setae with light brownish hairs around thoracic margins. *Eyes*: with black surrounds except AM; irregularly fringed by creamy

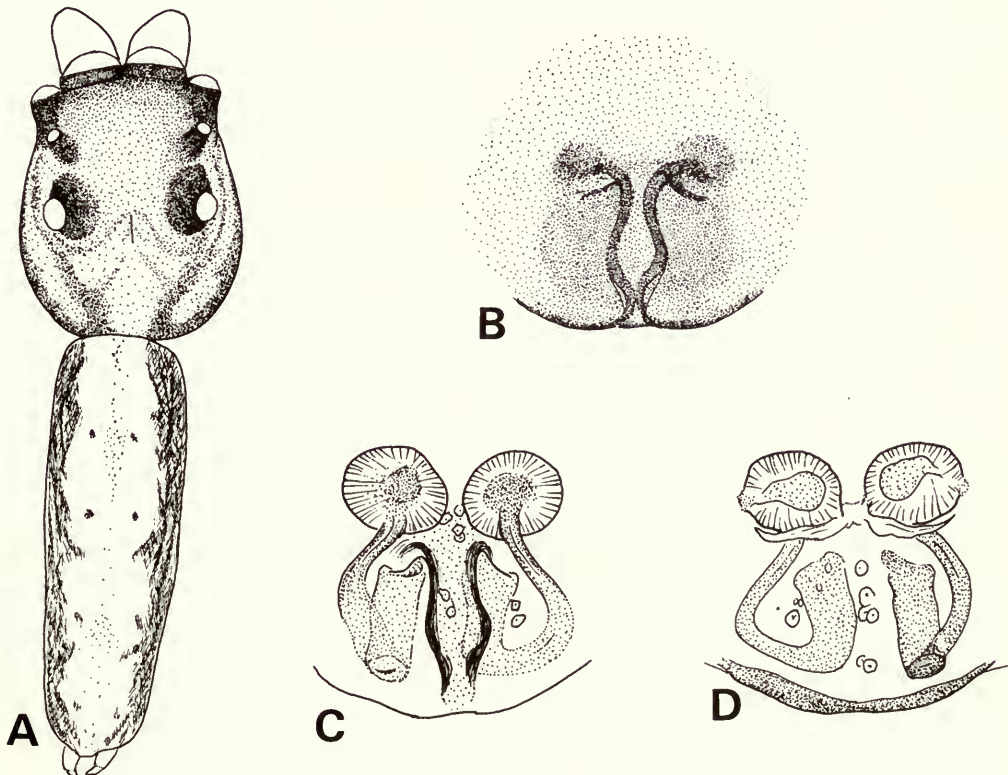


Fig. 12 *Cocalodes turgidus* sp. n. Holotype ♀: A, dorsal; B, epigyne. Paratype ♀: C, vulva, ventral; D, vulva, dorsal.

white hairs. *Chelicerae*: robust, inclined anteriorly and diverging; amber with brownish markings; shiny; thinly clothed in clear pale amber hairs; pro- and retromargins with three teeth. *Maxillae*: yellow-brown with inner distal margins whitish yellow. *Labium*: yellow-brown. *Sternum*: light yellow-brown with darker margins; shiny; thinly clothed in testaceous hairs. *Coxae*: pale yellow-brown. *Abdomen*: with four impressed spots; pale yellow with black lateral stripes and a black ventral band. *Legs*: legs I with tarsi yellow-brown, metatarsi blackish grading to light orange-brown proximally, tibiae yellow-brown with blackish annuli, patellae yellow-brown, femora yellow-brown with blackish streaks; other legs similar, but darker markings less extensive especially on legs III–IV; spines strong and numerous. Spination of legs I: metatarsi v 2–2–2, p 1–0–0, d 0–1–0, r 1–0–1; tibiae v 2–2–2, p 0–1–1, d 0–1–0, r 1–1–1; patellae p 1–0–0, r 1–0–0; femora p 1–1–0, d 0–2–3, r 0–1–1. *Epigyne* (Figs 12B–D; 20E, F).

Dimensions (mm): total length 8.72; carapace length 3.32, breadth 2.88, height 1.96; abdomen length 5.28; eyes, anterior row 2.44, middle row 2.18, posterior row 2.32; quadrangle length 2.02 (60% of carapace length). *Ratios*: AM:AL:PM:PL::19:12:8:12; AL–PM–PL::11–16; AM:CL::19:5 (26% of AM diameter).

VARIATION. A paratype ♀ measures 8.64 mm total length, 3.28 mm carapace length.

DISTRIBUTION. Irian Jaya.

MATERIAL EXAMINED. **Irian Jaya**: Sansapor, holotype ♀, paratype ♀, viii–ix.1944 (R. B. Burrows, A.P.O. 159) (AMNH, New York).

Cocalodes longipes (Thorell)

(Fig. 13A–G)

Cocalus longipes Thorell, 1881:494, 707, ♀, ♂. LECTOTYPE ♀, Yule Isl. PARALECTOTYPE ♂, Ceram Isl. (here designated) (MCSN, Genova) [examined]. Simon, 1901:407. Roewer, 1954:935. Bonnet, 1956:1173. Prószyński, 1971:391. Wanless 1981:256

DIAGNOSIS. From other species of *Cocalodes* by the scimitar-shaped dorsal prong of the median apophysis (Fig. 13E) in males, and by the comma-like introductory ducts (Fig. 13B) in females.

FEMALE LECTOTYPE. In fair condition. *Carapace* (Fig. 13D, F): orange-brown with sooty markings; irregularly clothed in short recumbent white hairs. *Eyes*: with black surrounds except AM; fringed by whitish hairs. *Clypeus*: thinly clothed in fine whitish hairs. *Chelicerae*: robust, inclined anteriorly and slightly diverging; dark amber; thinly clothed in white and light amber hairs; pro- and retromargins with three teeth. *Maxillae*: orange-brown with lighter inner margins. *Labium*: orange-brown. *Sternum*: amber with darker margins. *Coxae*: generally yellowish orange to amber. *Abdomen*: pale yellow-orange with faint sooty lateral markings outlining a central pale band; spinnerets pale yellow-brown. *Legs*: brownish amber grading to light amber distally; spines numerous and robust. Spination of legs I: metatarsi v 2–1–1, p 1–1–1, d 0–0–2, r 1–0–0; tibiae v 4–4–2, p 0–1–1, d 0–1–0; patellae r 1–0–0, p 1–0–0; femora p 1–0–1, d 0–2–3, r 0–1–1. *Epigyne* (Fig. 13B): similar to *platnicki* and *signatus*, but readily separated by the comma-like ducts.

Dimensions (mm): total length c.10.0; carapace length 3.76, breadth 3.32, height 2.36; abdomen length 5.92; eyes, anterior row 2.6, middle row 2.36, posterior row 2.41; quadrangle length 2.04 (54% of carapace length). *Ratios*: AM:AL:PM:PL::20:12:7.5:12; AL–PM–PL::11.5–17; AM:CL::20:5 (25% of AM diameter).

MALE PARALECTOTYPE. In fair condition. *Carapace* (Fig. 13A): amber with vague brownish markings; rubbed. *Eyes*: with black surrounds except AM; irregularly fringed by creamy white hairs. *Clypeus*: fringed in greyish white hairs. *Chelicerae*: elongate, porrect and diverging distally; amber, shiny; very sparsely clothed in light amber hairs; pro- and retromargins with three teeth. *Maxillae and labium*: yellow-brown. *Sternum*: pale yellow-brown with darker margins. *Coxae*: yellow-brown. *Abdomen*: yellow-brown with

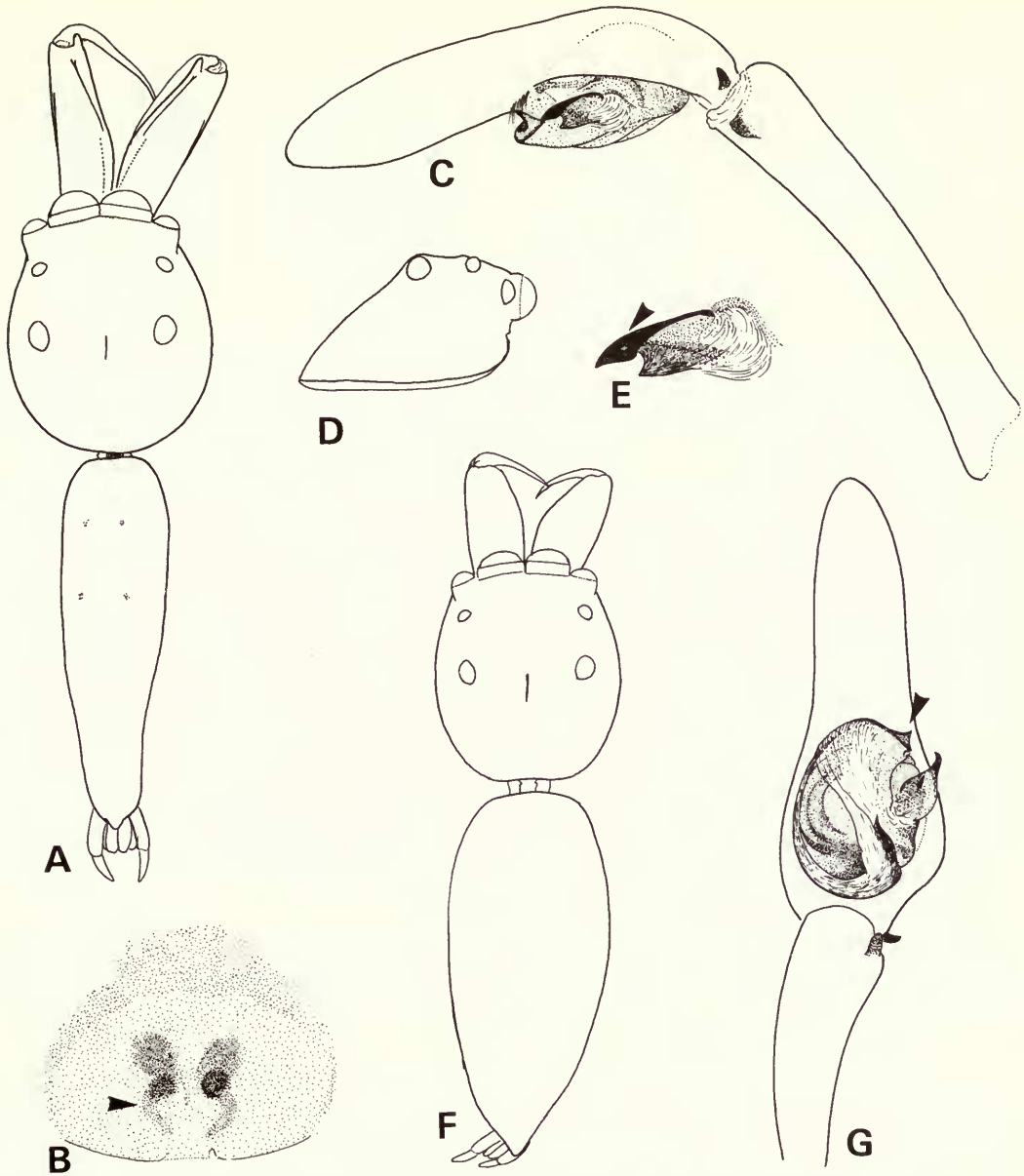


Fig. 13 *Cocalodes longipes* (Thorell). Paralectotype ♂: A, dorsal; C, palp, retrolateral; E, median apophysis; G, palp, ventral. Lectotype ♀: B, epigyne; D, carapace, lateral; F, dorsal.

faint sooty lateral markings; spinnerets yellow-brown. *Legs*: generally orange-brown; spines strong and numerous. Spination of legs I: metatarsi v 2-2-2, p 1-1-1, r 1-0-1; tibiae v 4-4-0, p 0-1-1, d 0-1-0, 1-1-1; patellae p 1-0-0, r 1-0-0; femora p 1-1-1, d 0-2-3, r 0-2-0. *Palp* (Fig. 13C, E, G): the triangular tip of the functional conductor is distinctive.

Dimensions (mm): total length c. 9.9; carapace length c. 4.28, breadth 3.64, height 2.52; abdomen length 6.24; eyes, anterior row 2.88, middle row 2.55, posterior row 2.68; quadrangle length 2.32 (54% of carapace length). *Ratios*: AM:AL:PM:PL:: 22.5:14:8.5:14.5; AL-PM-PL:: 13-17; AM:CL:: 22.5:8 (35% of AM diameter).

DISTRIBUTION. Indonesia: Ceram Island; Papua New Guinea: Yule Island.

MATERIAL EXAMINED. **Indonesia**, Wahai, Ceram Island, paralectotype ♂, 1872, (*L. M. D'Albertis*). **Papua New Guinea**, Yule Island (*Roro*), lectotype ♀, 1872 (*L. M. D'Albertis*) (MCSN, Genova).

REMARKS. To judge from the geographical distribution, the male and female described above may not be conspecific.

Cocalodes platnicki sp. n.
(Figs 14A–J; 21C–F)

DIAGNOSIS. From other species of *Cocalodes* by the combined absence of peg-like cymbial spines and curved tip of the functional conductor (Fig. 14F) in males. Females are readily separated by the absence of an epigynal septum and broad posterior ledge (Fig. 14H).

MALE HOLOTYPE. In fair condition. *Carapace* (Fig. 14B, C): yellow-brown with dark brownish sides and thin yellow-brown border line; pale areas including border line clothed in short whitish hairs, elsewhere covered in short blackish hairs. *Eyes*: with black surrounds except AM; fringed by whitish hairs. *Clypeus*: fringed in long white hairs. *Chelicerae*: moderately elongate, robust, inclined anteriorly and slightly divergent; pale orange-brown; sparsely fringed by long white hairs along outer basal margin; pro- and retromargins with three teeth. *Maxillae and labium*: yellow-brown. *Sternum* (Fig. 14G): yellow-brown with darker margins; shiny. *Coxae*: yellow-brown; shiny. *Abdomen*: with two pairs of impressed spots: pale yellow with blackish lateral bands; spinnerets pale yellow-brown tinged black. *Legs*: legs I amber grading to pale yellow-brown distally with blackish markings on femora, distal half of tibiae and metatarsi; legs II similar to I, but markings less distinct; legs III–IV yellow-brown with vague sooty annuli on metatarsi and darkening towards apices of tibiae; spines strong and numerous. Spination of legs I: metatarsi v 2–2–2, p 1–1–1, r 1–0–1; tibiae v 2–2–2, p 1–1–2, d 0–0–1, r 1–1–2; patellae p 1–0–0, r 1–0–0; femora p 2–1–2, d 0–3–2, r 1–2–2. *Palp* (Fig. 14D–F).

Dimensions (mm): total length 7.2; carapace length 2.98, breadth 2.48, height 1.76; abdomen length 4.24; eyes, anterior row 2.28, middle row 2.02, posterior row 2.12; quadrangle length 1.8 (60% of carapace length). *Ratios*: AM:AL:PM:PL :: 18:11:7:11.5; AL-PM-PL :: 10–14; AM:CL :: 18:4 (22% of AM diameter).

FEMALE PARATYPE. In good condition. *Carapace* (Fig. 14A): dark orange-brown with yellow-brown markings; dark areas clothed in short blackish hairs with whitish hairs elsewhere. *Eyes*: more or less as in ♂. *Clypeus*: fringed by white hairs. *Chelicerae*: robust and moderately porrect; amber; sparsely clothed in whitish and pale amber hairs; pro- and retro-margins with three teeth. *Maxillae and labium*: pale yellow-brown. *Sternum*: pale yellow-brown; thinly covered in testaceous hairs. *Coxae*: pale yellow-brown. *Abdomen*: similar to ♂, but ventrally with a pale greyish band from epigyne to spinnerets. *Legs*: legs I–II yellow-brown with vague darker markings and blackish femoral stripes; other legs yellow-brown with sooty spots on femora, darkened tibial apices and sooty annuli of metatarsi; spines strong and numerous. Spination of legs I: metatarsi v 2–2–2, p 1–0–0, d 0–1–2, r 1–0–0; tibiae v 2–2–2, p 1–1–1, d 0–1–0, r 1–1–1; patellae p 1–0–0, r 1–0–0; femora p 1–1–1, d 0–2–3, r 0–2–0. *Epigyne* (Figs 14H–J; 21C–F): only species in genus known to have secondary spermathecae.

Dimensions (mm): total length 8.96; carapace length 3.44, breadth 2.84, height 2.0; abdomen length 5.28; eyes, anterior row 2.52, middle row 2.18, posterior row 2.28; quadrangle length 2.0 (58% of carapace length). *Ratios*: AM:AL:PM:PL :: 19:12:8:12; AL-PM-PL :: 13–16.5; AM:CL :: 19:4 (21% of AM diameter).

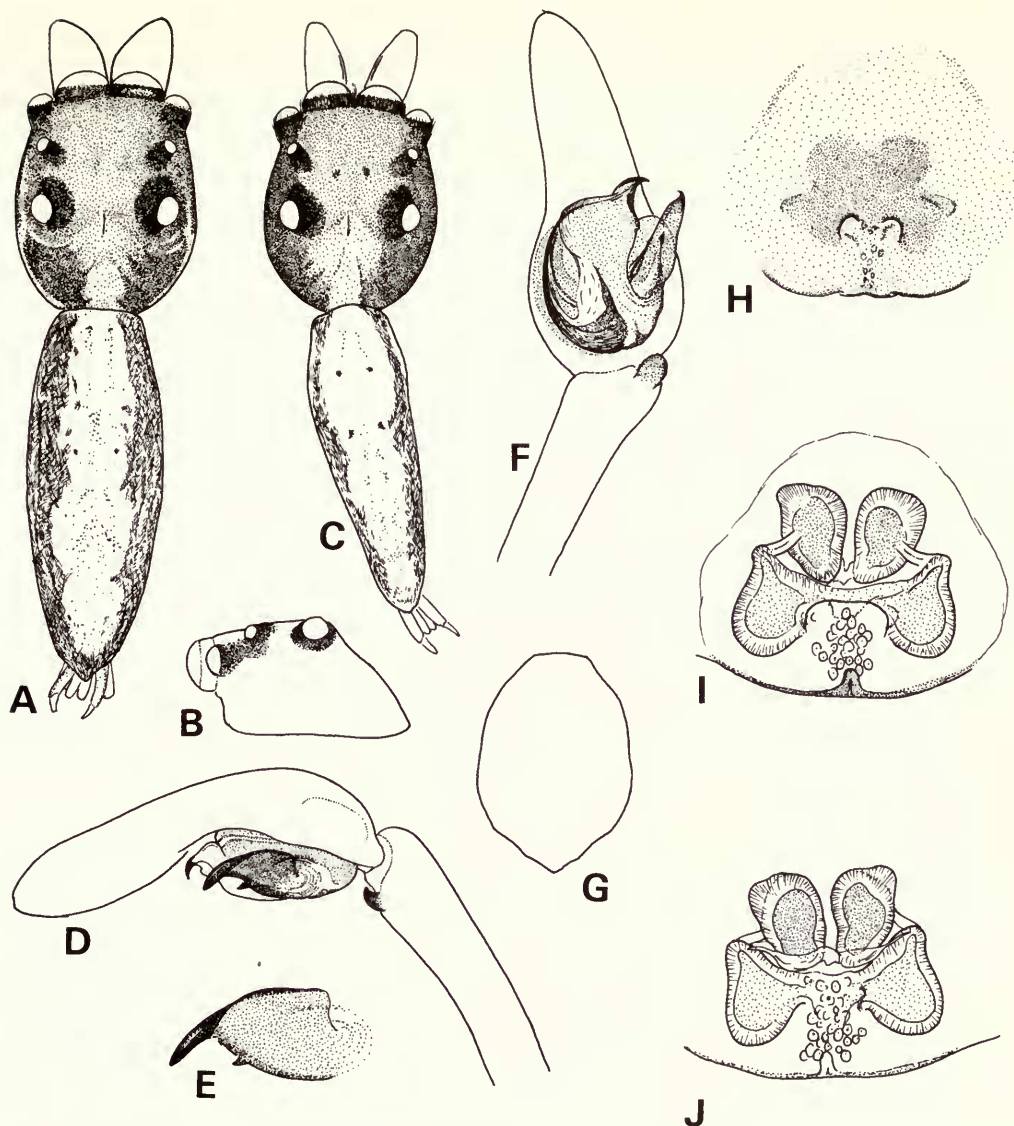


Fig. 14 *Cocalodes platnicki* sp. n. Holotype ♂: B, carapace, lateral; C, dorsal; D, palp, retrolateral; E, median apophysis; F, palp, ventral; G, sternum. Paratype ♀: A, dorsal; H, epigyne; I, vulva, dorsal; J, vulva, ventral.

VARIATION. Paratype ♂ measures 9.6 mm total length, 3.72 mm carapace length. Paratype ♀ c. 9.1 mm total length, 3.24 mm carapace length.

DISTRIBUTION. Irian Jaya.

MATERIAL EXAMINED. **Irian Jaya**, Sukarnapura (Hollandia): tropical rain forest, holotype ♂, paratype ♀, 31.xii.1944 (*L. W. Saylor*) (AMNH, New York); paratype ♀, 5.i.1945 (*L. W. Saylor*) (AMNH, New York); paratype ♂, rain forest, xii.1944, (*H. Hoogstraal*) (AMNH, New York).

ETYMOLOGY. This species is named after Dr N. I. Platnick, American Museum of Natural History, New York.

Cocalodes innotabilis sp. n.

(Figs 15A-F; 18A, B)

DIAGNOSIS. Similar to males of *C. longipes* and *C. longicornis*, but separated by the combined presence of peg-like cymbial spines and the finger-like dorsal prong of the median apophysis (Fig. 15D, E).

FEMALE. Unknown. *C. expers* from Fergusson Island may belong here or possibly the female of *C. longipes*, from Yule Island (Papua New Guinea), which seems doubtfully matched with the male known only from Seram (Indonesia).

MALE HOLOTYPE. In fair condition. *Carapace* (Fig. 15A, B): orange-brown with dark reddish brown sides and light orange margins; weakly iridescent under some angles of illumination; rubbed. *Eyes*: with black surrounds except AM; fringed in whitish and pale amber hairs. *Clypeus*: sparsely fringed by fine pale brownish hairs. *Chelicerae*: moderately long, inclined anteriorly; dark reddish brown, weakly iridescent blue under some angles of illumination; thinly covered in stiff brownish hairs; pro- and retromargins with three teeth; horn moderately long, but not protruding beyond clypeus. *Maxillae*: orange-brown to light yellowish along inner and distal margins. *Labium*: orange-brown tipped light yellow. *Sternum*: pale amber with darker margins; shiny. *Coxae*: pale amber. *Abdomen*: with two pairs of impressed spots; yellow-brown with brownish lateral bands above and central blackish band below; rubbed; spinnerets light orange-brown tinged black. *Legs*: tarsi light amber, metatarsi dark brown with light brownish hairs grading to amber with

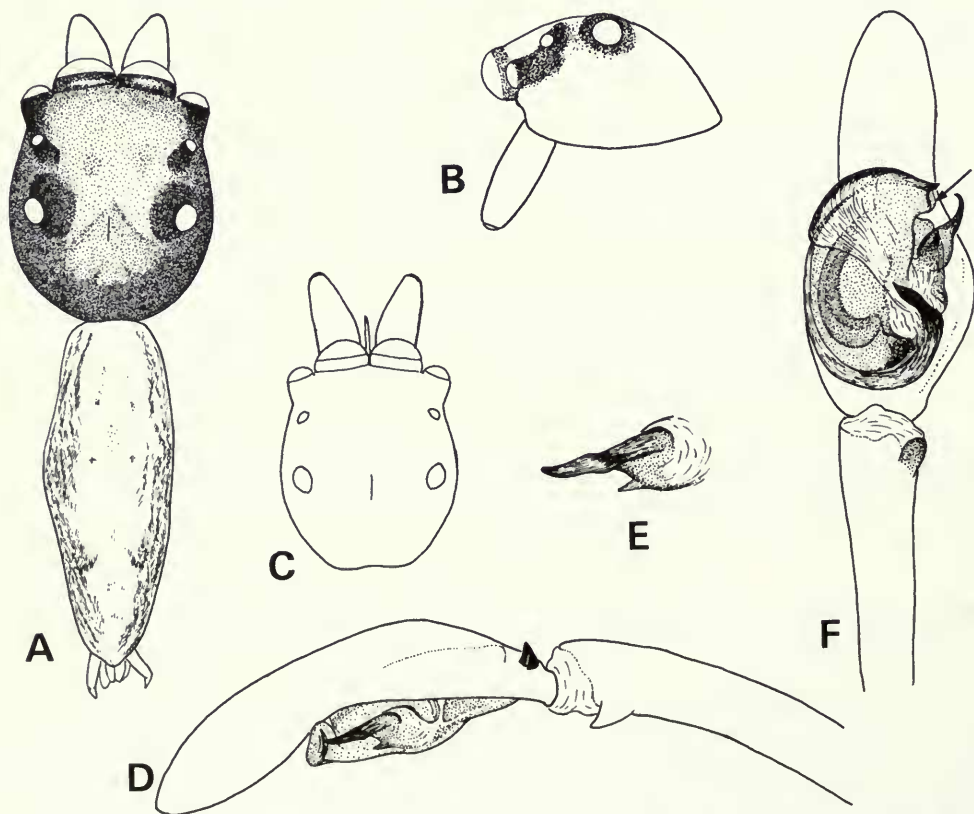


Fig. 15 *Cocalodes innotabilis* sp. n. Holotype ♂: dorsal; B, carapace, lateral; D, palp, retrolateral; E, median apophysis; F, palp, ventral. Paratype ♂: C, carapace, dorsal, showing cheliceral horn.

white hairs proximally, tibiae dark brown, patellae brownish grading to amber proximally, femora amber; other legs amber; spines strong and numerous. Spination of legs I: metatarsi v 2-2-2, p 1-0-0, d 0-1-2, r 1-0-1; tibiae v 2-2-2, p 1-1-1, d 1-1-0, r 1-1-1; patellae p 1-0-0, r 1-0-0; femora p 1-1-1, d 0-2-3, r 0-1-1. *Palp* (Figs 15D-F; 18A, B); the lobe associated with the tip of the functional conductor (arrowed, Fig. 15F) is also characteristic of this species.

Dimensions (mm): total length 6.96; carapace length 2.88, breadth 2.4, height 1.84; abdomen length 4.0; eyes, anterior row 2.26, middle row 2.04, posterior row 2.18; quadrangle length 1.72 (59% of carapace length). *Ratios*: AM:AL:PM:PL::18:11:6:11; AL-PM-PL::10-13; AM:CL::18:5 (27% of AM diameter).

VARIATION. ♂ total length varies from 5.9 to 8.2 mm, carapace length 2.28-4.4 mm (eight specimens).

In one male, having the same carapace length as the holotype, the cheliceral horn protrudes beyond the clypeus and may be clearly seen in dorsal view (Fig. 15C). Also, as in the case of *C. papuanus* the cymbium bears either two or three peg-like spines.

DISTRIBUTION. Papua New Guinea.

MATERIAL EXAMINED. **Papua New Guinea**: Louisiade Archipelago, Sudest Island, (L. J. Brass, Fifth Archbold Expedition to New Guinea) (AMNH, New York): Rambuso, on north coast, 0-100 m, holotype ♂, camp 11, xiii.1956; Mt. Riu, paratype ♂, 250-350 m, 1956. Kokoda, paratype ♂, viii.1933 (L. E. Cheesman) (BMNH. 1934.12.14.269); Morobi Province, Buro river, paratype ♂, ix.1979 (J. H. Martin) (BMNH. 1981.7.31.1); Milne Bay, paratype ♂, autumn 1944 (R. B. Burrows, A.P.O. 928) (AMNH, New York); Oro Bay; paratypes 2♂♂, (Lt. B. Struck, A.P.O. 503) (AMNH, New York), paratype ♂, vii-viii.1943 (Sidney Sandler) (AMNH, New York).

Genus *ALLOCOCALODES* gen. n.

DEFINITION. Based on two species known only from males.

Spiders of medium size (i.e. 4.0 to 8.0 mm in length). Male with elongate and porrect chelicerae bearing a median horn which is sometimes visible in dorsal view; not hirsute. *Carapace*: profile as in Figs 16A, B; 17A, B; high, longer than broad, with steep thoracic slope, widest at level of coxae II-III; fovea long, sulciform, centre situated just behind posterior margin of posterior lateral eyes. *Eyes*: large with black surrounds except anterior medians; posterior median and posterior laterals set on pronounced tubercles; set in three transverse rows comprised of anterior medians (AM) and anterior laterals (AL), posterior medians (PM) and posterior laterals (PL); anteriors contiguous with apices procurved in frontal view and recurved in dorsal view; anterior medians largest; anterior laterals greater than half diameter of anterior medians; posterior medians large, positioned nearer to anterior laterals than to posterior laterals and more or less on optical axis of anterior laterals; posterior laterals about as large as anterior laterals and set inside lateral margins of carapace when viewed from above; quadrangle formed by posterior medians and posterior laterals broader than long and widest posteriorly; entire quadrangle, measured from between bases of anterior medians to posterior margins of posterior laterals, occupying between 60-65% of carapace length. *Clypeus*: between 25 and 37% of diameter of anterior median eyes. *Chelicerae*: elongate and porrect, sometimes diverging, with a median horn arising basally; promargin with four teeth, retromargin with two. *Maxillae* (Fig. 16C): long and diverging with rounded apices. *Labium*: oblong about half maxillae length. *Sternum* (Fig. 16C): scutiform. *Coxae*: I and II largest. *Pedichel*: short. *Abdomen*: elongate ovoid; spinnerets moderately long, posteriors longest with moderately long apical articles, anteriors robust, slightly longer than more slender medians; spiracle a transverse slit just in front of anterior spinnerets; tracheal system not examined; position of colulus indicated by scanty tuft of fine hairs; anal tubercle a broad cone. *Legs*: long and slender; spines moderately strong and numerous; claws pectinate; tufts

present; scopulae absent. *Male palps*: moderately simple and similar in appearance; femora slightly bowed; patellae moderately long; tibiae with small dorsal tubercle, bifid retrolateral apophysis, the ventral element broad and rounded, the dorsal slender with translucent tip; cymbium with distal finger-like extension and shallow dorsally ridged excavation on retrolateral basal margin; embolus (e) short, moderately stout and curved, arising subapically; functional conductor (c) a finger-like extension of the tegulum the tip of which lies either above or below that of the embolus; also arising from tegulum a lobe-like median apophysis (m); tegulum (t) ovoid with peripheral seminal ducts and what appears to be an inner folded duct. Expanded palps not examined.

TYPE SPECIES. *Allococalodes alticeps* sp. n.

AFFINITIES. Closely related to *Cocalodes*, see remarks on p. 264.

DIAGNOSIS. From *Cocalodes* by the bifid retrolateral tibial apophysis, lobe-like functional conductor and median apophysis (Figs 16E; 17C).

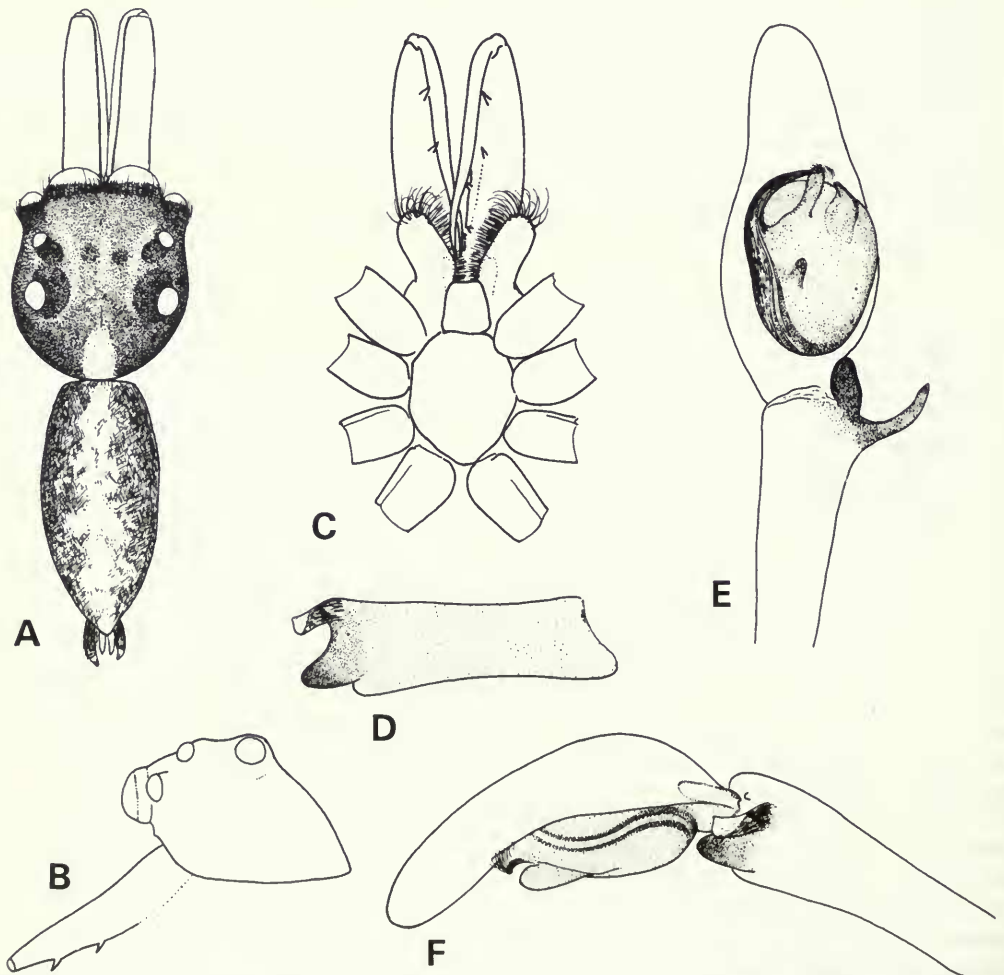


Fig. 16 *Allococalodes alticeps* sp. n. Holotype ♂: A, dorsal; B, carapace lateral; C, sternum, coxae and mouth parts; D, palpal tibia, retrolateral; E, palp, ventral; F, palp, retrolateral.

List of species in the genus *Allococalodes* gen. n.*Allococalodes alticeps* sp. n.*A. cornutus* sp. n.***Allococalodes alticeps* sp. n.**

(Fig. 16A–F)

DIAGNOSIS. From *A. cornutus* by the pointed tip of the median apophysis (Fig. 16E).

FEMALE. Unknown.

MALE HOLOTYPE. In fair condition. *Carapace* (Fig. 16A, B): dark chestnut brown with central yellow-brown thoracic band and vague yellow-brown markings in eye region; sides clothed in short recumbent amber hairs, iridescent under some angles of illumination, with whitish hairs on thoracic band and eye region. *Eyes*: with black surrounds except AM; fringed by whitish hairs. *Clypeus*: fringed in white hairs. *Chelicerae*: elongate and porrect; dark brownish orange with blackish mottling; thinly clothed in stiff light amber hairs; promargin with four teeth, retromargin with two; cheliceral horn protruding just beyond clypeal margin, but not visible in dorsal view. *Maxillae and labium*: brownish orange suffused black with inner margin of maxillae and labial tip dull yellow-brown. *Sternum*: brownish orange suffused black. *Coxae*: yellow-brown. *Abdomen*: mottled black with dorsal light yellow band somewhat broken and having blackish markings; clothed in minute dull whitish hairs; spinnerets tinged black, the posteriors with lighter terminal articles. *Legs*: generally yellow-brown with blackish annuli; spines strong and numerous. Spination of legs I: metatarsi v 2-0-1, p 1-1-1, r 1-1-1; tibiae v 2-2-2, p 1-1-1, d 1-1-0, r 1-1-1; patellae p 0-1-0, r 0-1-0; femora p 1-1-1, d 0-2-2, r 0-1-0. *Palp* (Fig. 16D, E): when viewed from below (i.e. Fig. 16E), the tip of the embolus lies above the tip of the functional conductor (c.f. *A. cornutus*).

Dimensions (mm): total length 4.84; carapace length 2.2, breadth 2.04, height 1.64; abdomen length 2.56; eyes, anterior row 1.96, middle row 1.68, posterior row 1.8; quadrangle length 1.44 (65% of carapace length). *Ratios*: AM:AL: PM:PL :: 16:10:6.5:10; AL-PM-PL :: 8-10; AM:CL :: 16:4 (25% of AM diameter).

DISTRIBUTION. Irian Jaya.

MATERIAL EXAMINED. **Irian Jaya**: Sukarnapura (Hollandia), rain forest, holotype ♂, 31.xii.1944 (*L. W. Saylor*) (AMNH, New York).

***Allococalodes cornutus* sp. n.**

(Fig. 17A–E)

DIAGNOSIS. From *A. alticeps* by the obtuse tip of the median apophysis (Fig. 17C).

FEMALE. Unknown.

MALE HOLOTYPE. In poor condition. *Carapace* (Fig. 17A, B): dark orange-brown with pale eye region and median light yellowish brown thoracic band from foveal area to posterior margin; sides clothed in short recumbent amber hairs, shining under some angles of illumination, with dull whitish hairs on thoracic band and eye region. *Eyes*: with black surrounds except AM; fringed by dull whitish hairs. *Clypeus*: White haired. *Chelicerae*: elongate, porrect and diverging; dark orange-brown with blackish mottling; sparsely clothed in fine clear whitish hairs; promargin with four teeth, retromargin with two; cheliceral horn spiralled and protruding beyond clypeal margin. *Maxillae*: brown-black to dirty yellow-brown. *Labium*: dark brownish. *Sternum*: amber with irregular blackish mottling. *Coxae*: yellow-brown. *Abdomen*: damaged; elongate ovoid; yellow-brown with irregular blackish markings. *Legs*: generally light orange-brown grading

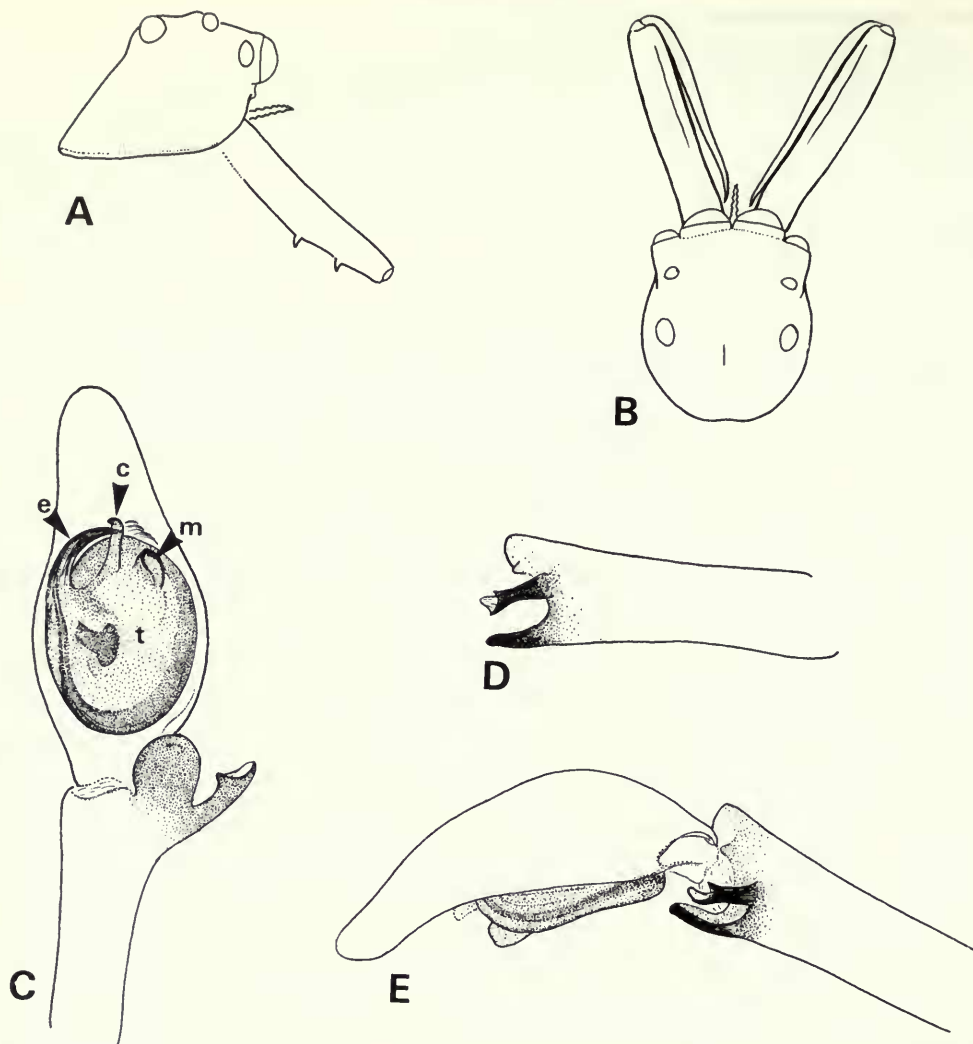


Fig. 17 *Allococalodes cornutus* sp. n. Holotype ♂: A, carapace lateral; B, carapace, dorsal; C, palp, ventral; D, palpal tibia, retrolateral; E, palp, retrolateral. Abbreviations: c, functional conductor; e, embolus; m, median apophysis; t, tegulum.

to yellow-brown distally with blackish annuli; spines moderately strong and numerous. Spination of legs I: metatarsi v 2-1-1, p 1-1-1, d 0-0-1, r 1-0-1; tibiae v 2-4-1, p 1-1-1, d 1-1-0, r 1-1-0; patellae p 1-0-0, r 1-0-0; femora p 1-1-0, d 0-2-2. *Palp* (Fig. 17C-E): when viewed from below the functional conductor lies above the embolic tip (Fig. 17C).

Dimensions (mm): total length c. 4.8; carapace length 2.32, breadth 2.02, height 1.66; abdomen length c. 2.6; eyes, anterior row 1.94, middle row 1.62, posterior row 1.76; quadrangle length 1.4 (60% of carapace length). *Ratios*: AM:AL:PM:PL :: 15:9:6.5:9.5; AL-PM-PL :: 9-9; AM:CL :: 15:5.5 (37% of AM diameter).

DISTRIBUTION. Irian Jaya.

MATERIAL EXAMINED. **Irian Jaya**, holotype ♂, (*Dr. Moszkowski*, no 54) (MNHU, Berlin. 17800).

Taxonomic summary

1. *Allococalodes* gen. n., is proposed.
2. Eight new species are described:
 - Allococalodes alticeps* sp. n.
 - Allococalodes cornutus* sp. n.
 - Cocalodes cygnatus* sp. n.
 - Cocalodes expers* sp. n.
 - Cocalodes innotabilis* sp. n.
 - Cocalodes longicornis* sp. n.
 - Cocalodes platnicki* sp. n.
 - Cocalodes turgidus* sp. n.
3. Three species are newly synonymized:
 - Cocalodes armatissimus* Strand, 1913, and *Cocalodes plebejus* Szombathy, 1915, are junior synonyms of *Cocalodes papuanus* Simon, 1900.
 - Cocalodes melanognathus* Pocock, 1897, is a junior synonym of *Cocalodes leptopus* Pocock, 1897.

Acknowledgements

I wish to thank the following colleagues for providing specimens for study. Dr Gianna Arbocco, Museo Civico di Storia Naturale, Genova, Italy (MCSN, Genova); Dr M. Grasshoff, Forschungsinstitut Senckenberg, Natur-Museum, Senckenberg, Frankfurt am Main, West Germany (FS, Frankfurt am Main); Dr M. Hubert, Muséum National d'Histoire Naturelle, Paris, France (MNHN, Paris); Dr H. W. Levi, Museum of Comparative Zoology, Harvard, U.S.A. (MCZ, Harvard); Dr M. Moritz, Museum für Naturkunde der Humboldt-Universität, Berlin, East Germany (MNHU, Berlin); Dr N. I. Platnick, American Museum of Natural History, New York, U.S.A. (AMNH, New York).

I also wish to thank Mr D. Macfarlane (CIE, London) for reading the manuscript and Mr P. York (BMNH. Photo unit) for the cleared epigyne photographs.

References

- Bonnet, P. 1956. *Bibliographia Araneorum*. 2 (2): 919–1925. Imprimerie Douladoure, Toulouse.
- Forster, R. 1980. Unidentified objects. *J. Arachnol.* 8 (1): 91–92.
- Neave, S. A. 1939. *Nomencl. Zool.* Vol I A–C: 957 pp. Zoological Society, London.
- Petrunkévitch, A. 1928. *Systema Araneorum*. *Trans. Conn. Acad. Arts Sci.* 29: 270 pp.
- Platnick, N. I. & Shadab, M. U. 1975. A revision of the spider genus *Gnaphosa* (Araneae: Gnaphosidae) in America. *Bull. Am. Mus. nat. Hist.* 155: 3–66.
- Pocock, R. I. 1897. Spinnen (Araneae). In Kükenthal, W., *Ergebnisse einer zoologischen Forschungsreise in dem Molukken und Borneo*. *Abh. senckenb. naturforsch. Ges.* 23: 591–629.
- Prószyński, J. 1971. Catalogue of Salticidae (Aranei) specimens kept in major collections of the world. *Annls zool. Warsz.* 28: 367–519.
- Roewer, C. F. 1954. *Katalog der Araneae*. 2 Abt. B: 924–1290. Institut Royal des Sciences Naturelle de Belgique, Bruxelles.
- Simon, E. 1900. *Études arachnologiques* 30e Mémoire (1) XLVII Descriptions d'espèces nouvelles de la famille des Attidae. *Annls Soc. ent. Fr.* 69: 27–61.
- 1901. *Histoire Naturelle des Araignées*. 2 (3): 381–668. Roret: Libraire Encyclopédique, Paris.
- Strand, E. 1913. Neue indoaustralische und polynesische Spinnen des senckenbergischen Museums. *Arch. naturgesch.* 79A (6): 113–123.
- 1915. Indoaustralische, papuanische und polynesische Spinnen des senckenbergischen Museums, gesammelt von Dr E. Wolf, Dr J. Elbert u. a. In wissenschaftliche Ergebnisse der Hanseatischen Südsee Expedition 1909. *Abh. senckenb. naturforsch. Ges.* 36 (2): 181–274.

- Szombathy, K. 1915. Attides nouveaux appartenant aux collections du Musée National Hongrois. *Annls hist.-nat. Mus. natn. hung.* **13** : 468-490.
- Thorell, T. 1878. Studi sui ragni Malesi e Papuani. Part II. Ragni di Amboina raccolti da Prof. O. Beccari. *Mus. civ. Stor. nat. Giacomo Doria* **13** : 317 pp.
- 1881. Studi sui ragni Malesi e Papuani. Part III. Ragni dell Austro-Malesia e del Capo York, conservati nel Museo Civico di Storia Naturale di Genova. *Mus. civ. Stor. nat. Giacomo Doria* **17** : 720 pp.
- Wanless, F. R. 1978. A revision of the spider genera *Belippo* and *Myrmarachne* (Araneae: Salticidae) in the Ethiopian region. *Bull. Br. Mus. nat. Hist. (Zool.)* **33** (1) : 139 pp.
- 1981. A revision of the spider genus *Cocalus* (Araneae: Salticidae). *Bull. Br. Mus. nat. Hist. (Zool.)* **41** (5) : 253-261.
- Waterhouse, C. O. 1902. *Index zoologicus* 421 pp. London.

Manuscript accepted for publication 5 October 1981

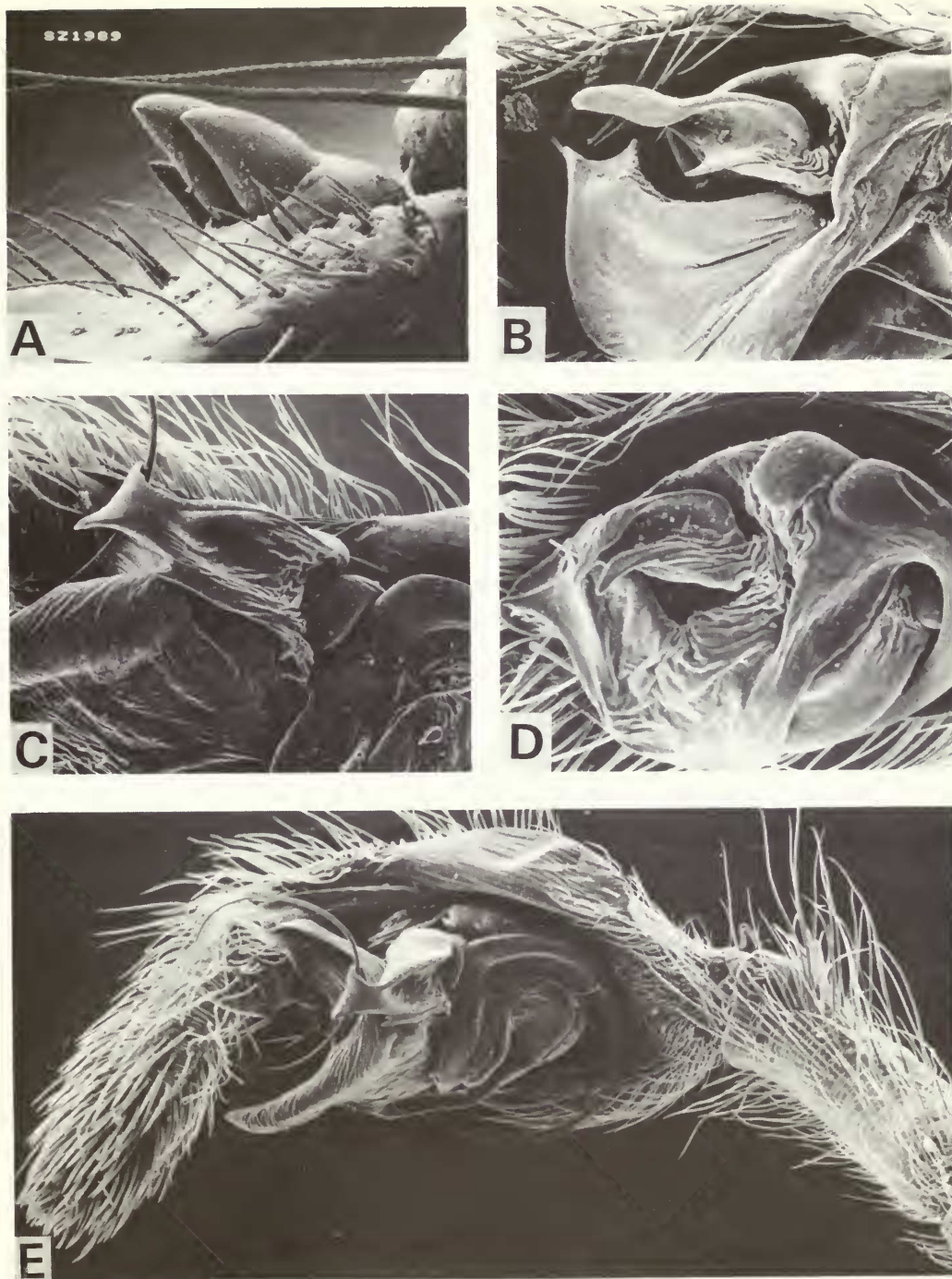


Fig. 18 (A, B) *Cocalodes innotabilis* sp. n. ♂ palp: A, peg-like cymbial spines, $\times 500$; B, median apophysis and functional conductor, $\times 100$. (C, E) *C. papuanus* Simon. ♂ palp: C, median apophysis, $\times 100$; E, ventrolateral view, $\times 60$. (D) *C. thoracicus* Szombathy. ♂ palp, median apophysis, $\times 150$.

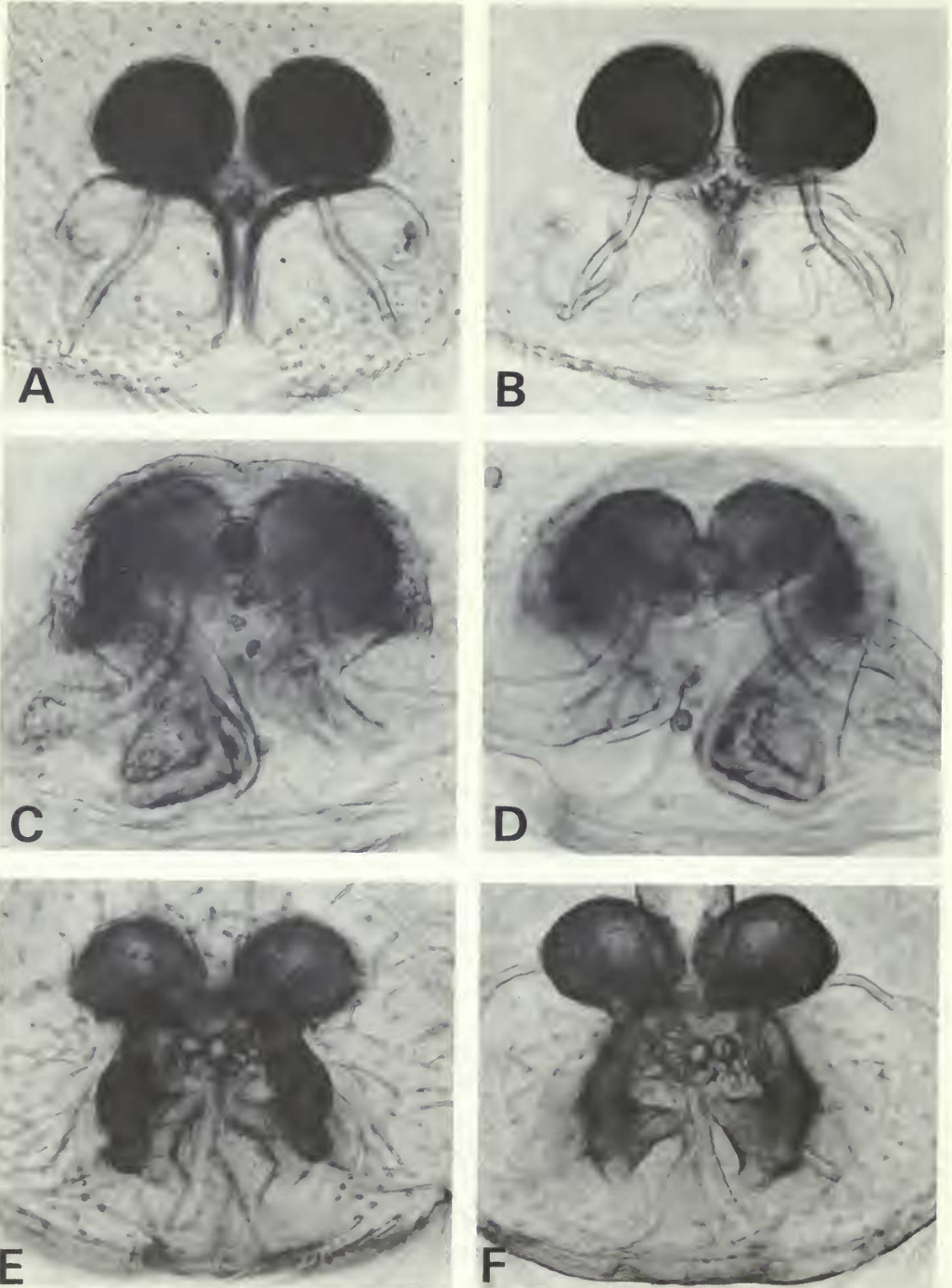


Fig. 19 (A, B) *Cocalodes papuanus* Simon. Vulva: A, ventral; B, dorsal, $\times 100$. (C, D) *C. leptopus* Pocock. Vulva: C, ventral; D, dorsal, $\times 140$. (E, F) *C. cygnatus* sp. n. Vulva: E, ventral; F, dorsal; $\times 140$.

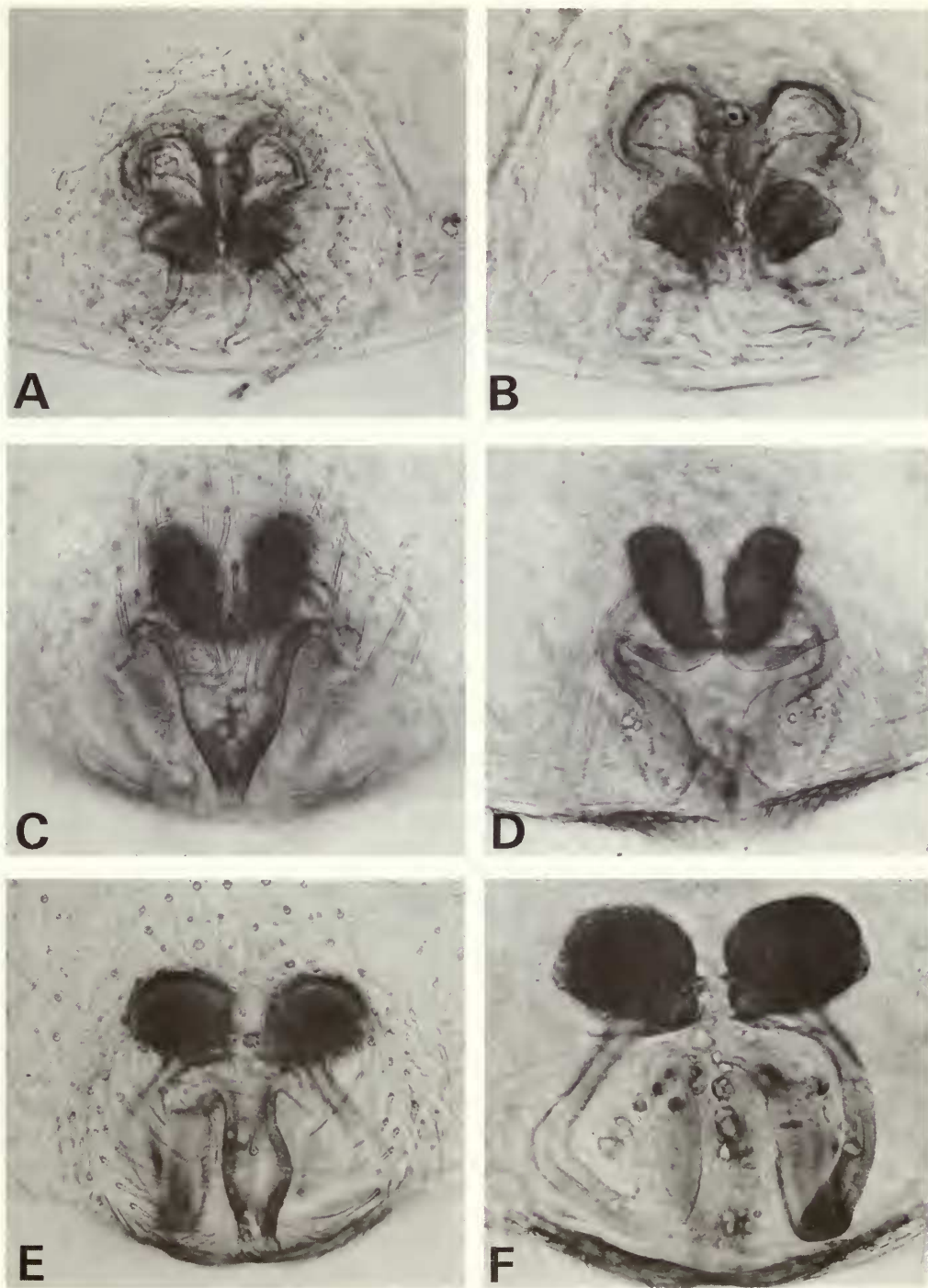


Fig. 20 (A, B) *Cocalodes macellus* (Thorell). Vulva: A, ventral; B, dorsal; $\times 100$. (C, D) *C. thoracicus* Szombathy. Vulva: C, ventral; D, dorsal; $\times 100$. (E, F) *C. turgidus* sp. n. Vulva: E, ventral, $\times 100$; F, dorsal, $\times 135$.

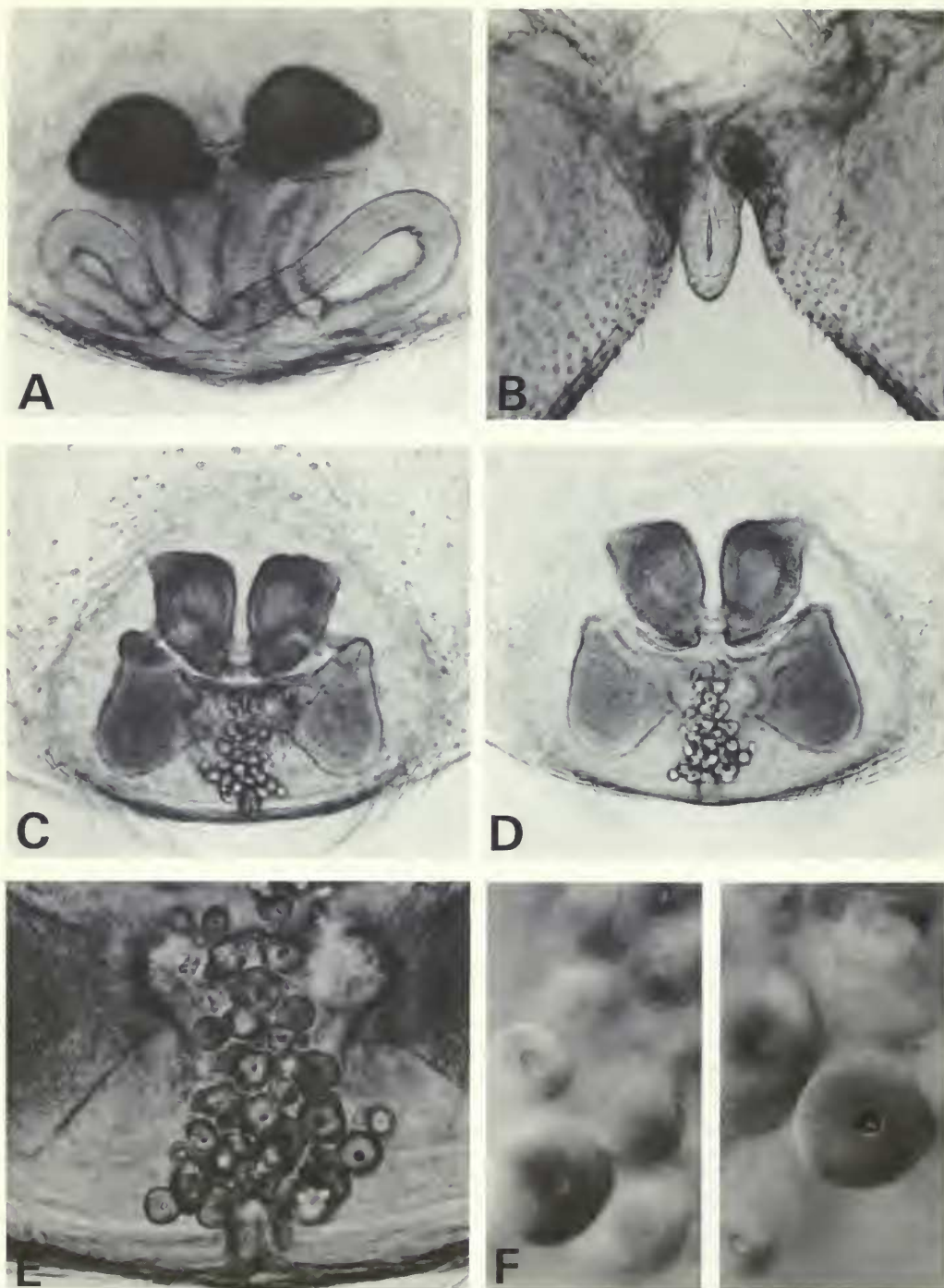


Fig. 21 A, *Cocalodes longicornis* sp. n., vulva dorsal view, $\times 140$. B, *C. papuanus* Simon, cheliceral horn, $\times 85$. (C, D) *C. platnicki* sp. n. Vulva: C, ventral; D, dorsal; $\times 100$. (E, F) spherical bodies in vulva of *C. platnicki*; E, $\times 280$; F, $\times 1200$.